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ABSTRACT

Six contrived situational measures of altruism--prosocial behavior intended to benefit other persons--were developed and administered to 52 fourth- through sixth-grade boys and girls of Caucasian, Japanese, Chinese, Filipino, and Hawaiian heritage. A peer nomination device and a teacher rating form dealing with altruistic behavior were developed and completed by the children and by two teachers familiar with the children. The findings indicated that the situational measures held promise for assessment of altruistic tendencies in children. Performance across situations generally exhibited low positive association, although two essentially uncorrelated clusters also emerged. One cluster involved anonymous donation of goods or work to physically absent strangers, while the other involved giving goods to physically present classmates. Inter-correlations between ratings and overt performance varied with the level at which each was scored. When items were combined into global indices, significant relationships were nonexistent; when principal component factors were formal, higher correlations were obtained. Correlations between individual situational performances and selected demographic and personality variables (sex, grade, socioeconomic status, ethnicity, socially desirable presentation, academic achievement) were highly variable, although statistically significant relationships were obtained for a summary situational index. The measures are appended. (Author/DSE)

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FINAL REPORT

Assessment of Altruism in Children

National Institute of Education Project No. 3-0912

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Summary

Six contrived situational measures of altruism, differing on several dimensions thought to influence altruistic performance, were developed and administered to 52 fourth- through sixth-grade boys and girls of Caucasian, Japanese, Chinese, Filipino, and Hawaiian heritage. In addition, a peer nomination device and a teacher rating form dealing with altruistic behavior were developed and completed by, respectively, the children and two teachers familiar with the children. All measures are presented in appendices. The findings indicated, first, that the situational measures held promise for assessment of altruistic tendencies in children. Second, performance across situations generally exhibited low positive association, although two essentially uncorrelated clusters also emerged. One cluster involved anonymous donation of goods or work to physically absent strangers, while the other involved giving goods to physically present classmates. Third, intercorrelations between ratings and overt performance varied with the level at which each was scored. When items were combined into global indices, significant relationships were nonexistent; when principal component factors were formal, higher correlations were obtained. Fourth, correlations between individual situational performances and selected demographic and personality variables (sex, grade, socioeconomic status, ethnicity, socially desirable presentation, academic achievement) were highly variable, although statistically significant relationships were obtained for a summary situational index.

One aspect of a child's social behavior is the extent to which he or she behaves in a positive "prosocial" manner toward other individuals under appropriate circumstances. A large segment of such activity typically has been subsumed under the descriptive label of "altruism." Altruistic acts are "those behaviors intended to benefit another but which appear to have a high cost to the actor with little possibility of material or social reward" (Bryan & London, 1970, p. 200). The term traditionally has included a number of more specific behaviors, such as donating, helping, sharing, rescuing, and providing sympathy.

In recent years, social scientists have been concerned about the lack of altruistic acts in contemporary American society. For example, Midlarsky (1968) has argued that: "Constant exposure to the mass media leaves one in serious doubt concerning man's willingness to aid his neighbor. While violent behavior seems commonplace, individual acts of altruism become the subject of human interest news" (p. 230). Kaufmann (1970) has commented similarly:

> There has been some concern recently with the failure of law-abiding citizens to assume what could be called basic social responsibilities in crisis situations. In some well known instances, a person who had seriously injured another had already left the scene, yet many people either passed by the victim, or even stood around staring at him, without either helping directly or calling for help (p. 112).

American educators have also been increasingly concerned about this aspect of children's behavior and have been placing a growing emphasis on the social and prosocial development of children. Coleman (1972), for

instance, has argued that teaching "productive action with responsibilities that affect the welfare of others" (p. 75), which in the past has been accomplished outside formal education, must become the focus of the school of the future. Many schools have already begun instructional programs aimed at clarification of personal values, and at least one major research project has been undertaken recently to discover ways of increasing children's altruistic responses (Hill, Note 1). Teachers in general are increasingly stressing the development of positive social behaviors as primary educational goals (Boehn, 1971).

These developments within social science and education have been matched by increased research on altruism. Within psychology, there has been a dramatic upsurge in experimental laboratory investigations of situational determinants of altruistic responses and learning variables affecting their acquisition. Within education, interest has been directed primarily toward development of intervention programs in the area of values, although some work has begun on programs focused on overt behavior as well. In neither education nor psychology, however, has much research attention been directed towards developing a better conceptualization of the domain of altruism or more adequate methods of measuring altruistic tendencies. Nevertheless, improved understanding of individual differences in altruistic behavior, as well as development of successful programs for altering altruism in children, rest on the availability of adequate conceptualizations of the construct and valid techniques for its measurement.

Unfortunately, at the present time, if a researcher were to look for measures adequate for the assessment of altruistic behavior in children, he or she would be faced with an impossible task. In the first place,

most measures currently available for assessment of any facet of social behavior of children are of questionable utility due to insufficient evidence of construct validity. Even when validity information is available, however, it is typically not complete enough to justify the conclusion that the measure has any strong relationship to overt behavior (e.g., Anderson & Harris, 1959; Lesser, 1959; Medinus, 1961; Walder, Abelson, Eron, Banta, & Laulicht, 1961). Perhaps more crucial in terms of recent thinking in assessment (Argyle & Little, 1972; Fiske, 1971, 1974; Mischel, 1968, 1973), there are theoretical reasons to argue that it is doubtful that traditional measures will ever demonstrate adequate utility: (a) they are designed to measure global ordinary-language trait constructs, which very likely combine dissimilar behaviors having no functional equivalence; and (b) they involve verbally-based data collection procedures, such as self-report or ratings by peers or teachers, that are subject to a multitude of distortions as typically employed. These two qualities of existing techniques may severely limit their utility, even if construction and validation were not undertaken in a cavalier fashion.

With regard to the first issue, a perusal of the measures currently available for assessment of social behavior of children reveals a virtual absence of instruments for measuring altruism itself. Most measures instead deal with even more global constructs, such as "social competancy" (Levin, Elzey, & Lewis, 1969), interpersonal behavior (Shutz, 1967), and "socio-emotional" response (Martin & Martin, 1970). It is extremely doubtful that scores on such broad constructs could adequately reflect differences among individuals in altruistic behavior. Equally troublesome, those few measures that actually deal with altruism (e.g., Heist &

Yonge, 1968; Sawyer, 1966; Turner, 1948) yield a single trait score, reflecting the implicit assumption that the construct represents a highly integrated set of behaviors or that it provides an unambiguous descriptive label. If altruism is not unidimensional for the majority of people, however, the assignment of a single score to an individual will lead to low predictability of overt behavior and contradictory findings in the study of individual differences. Moreover, such scores will communicate little from a descriptive point of view.

Several lines of evidence suggest that altruism is not unidimensional. First, five decades of research on the related construct of "honesty" has not revealed behaviors subsumed under that label to be highly integrated for the majority of people (Barbu, 1951; Grim, Kohlberg, & White, 1968; Hartshorne & May, 1928; Hetherington & Feldman, 1969; Sears, Rau, & Alpert, 1965; Nelson, Grinder, & Mutterer, 1969). Altruism includes processes at least as complex as those included under the label of honesty and therefore would probably not fare much better under careful scrutiny. Second, consideration of recent research on altruism reveals at least five distinct subcategories of behavior distinguished in ordinary language. Each of these subcategories differs in one or more ways from the others and may therefore be subject to different influences. The ordinary language labels applied to the five subcategories are: donating, helping, sharing, rescuing, and sympathizing.

Donating is the usual label applied when an individual gives material goods to a recipient with little opportunity for material or social benefits in return. Often the term is restricted to situations where the recipient is not physically present. The construct of helping is frequently reserved for activities in which an individual expends time and effort in order to

benefit a recipient. Rather than providing material goods, the individual performs some kind of work that aids the recipient. Sharing is the term often used to cover situations in which an individual divides several valued objects between himself or herself and a recipient. The distribution typically involves someone known to the individual and may take place in their presence or at least close proximity. The concept of rescuing is applied when an individual aids someone in distress. Some degree of real or imaginary danger often exists for the actor as well as the recipient of help, and physical pain may be involved. Sympathizing is the label often applied when an individual attempts to reduce the grief or suffering of someone through verbal and/or physical expressions of concern.

The differences between these five subcategories of behavior highlight the complexity of the contruct of altruism. It is a descriptive label that encompasses actions varying along a number of potentially important dimensions, such as (a) whether material goods or work are involved; (b) whether the behavior occurs in public or in private; (c) whether the act is anonymous or not; (d) the degree of prior contact with the recipient--whether he or she is a friend, acquaintance, or stranger; (e) the extent to which the recipient is "salient"--whether he or she is physically present, represented in a picture or letter, or absent; and (f) the degree of possible direct self-gain for the donor. In view of these multiple sources of influence, it is difficult to see the utility of the global construct either in terms of communicating about behavior or as a pivotal construct in the explanation of human actions.

The second major limitation of existing approaches to the measurement of social behaviors is their reliance on structured verbal reports by laymen, such as teacher ratings (e.g., Anderson & Harris, 1959;

Levine, Elzey, & Lewis, 1969; Martin & Martin, 1970), peer nominations (e.g., Lesser, 1959; Walder, Abelson, Eron, Banta, & Laulicht, 1961), or self-report by the individual (e.g., Schutz, 1967; Heist & Yonge, 1968). All three approaches have been subjected to repeated criticisms for years, but recently they have been attacked with increased force. The deficiencies in traditional self-report methodology have been emphasized particularly strongly by behaviorally-oriented researchers (Goldfried & D'Zurilla, 1969; Goldfried & Kent, 1972; Kanfer & Saslow, 1965; Mischel, 1968, 1971, 1973; Peterson, 1968; Wernimont & Campbell, 1968), although these criticisms have been aimed primarily at the model for combining self-report data rather than self-report itself. Psychometrically-oriented researchers, however, have also expressed misgivings over current levels of success with these techniques (Hathaway, 1972). Potential distortions arising from response sets, ambiguity in structured paper-and-pencil items, effects of setting and form of question, and selective memory effects are just a few of the well-documented problems (Fiske, 1971; Wiggins, 1973).

Teacher and peer ratings have also been criticized extensively for a number of reasons: habitual use of the low range of the rating scale by some raters, the high range by others, and frequent use of middle categories to avoid extreme judgment by still others; assignment of generally favorable ratings to all persons or certain classes of persons regardless of their actual behaviors; generalization from perceived standing on one dimension to standing on a variety of other characteristics; and many others (Guilford, 1954; Lanyon & Goodstein, 1971; Wiggins, 1973). Mischel (1968) has concluded that trait ratings may be more the construction of raters than a description of ratees.

In view of these problems, perhaps greater advances would be made by pursuing direct measurement of overt behavior, either by means of naturalistic behavior observation or by use of contrived situational measures. Either procedure is, of course, much more costly than verbal report techniques, but may yield far more useful information. To quote from Peterson (1968):

> How long can we tolerate a descriptive situation where our measures account for ten percent of accountable variance? How long can we go on seeking and failing to improve that score? How long will it be until we decide that there is no cheap way to study human behavior and begin looking as directly as possible at the behavior itself? (p. 141)

Systematic behavioral observation under natural, uncontrolled conditions has much to recommend it as a data-collection technique (Fiske, 1974; Skinner, 1975; Weick, 1968). Its major advantage is that validity can often be considered synonymous with reliability, if the obtained information is interpreted as representative of only those situations in which observation took place (Arrington, 1943). Even if observed behavior is considered to be representative of an individual's general actions, generalization is usually on firmer ground than in the case of situational measures, as long as sampling has been reasonably representative. However, this approach is quite expensive and time consuming: expert observers must be obtained and given sufficient training to produce high levels of inter-rater agreement, and a large enough number of situations must be sampled for a sufficient length of time for the behaviors of interest to emerge. In addition, the lack of comparability of observational settings for different research participants is a possible disadvantage for certain research purposes.

Contrived situational measures, in contrast to naturalistic behavioral observation, deal with overt behavior by placing the individual in highly structured situations designed to elicit the behavior of interest. The individual is aware of participating in a research project, but does not know the true purpose of his participation. The chief disadvantage of situational measures, of course, is that behavior in a contrived situation may not be representative of activity under more natural conditions (Smith, 1958). Although researchers using this approach hope that their situations appear quite natural to the participant and thereby evoke ordinary, nonreactive behavior (Aronson & Carlsmith, 1968), this is a very serious issue with any situational assessment device. Of course, naturalistic behavioral observation is also potentially reactive as it is typically used (Campbell, 1957; Sellitz, Jahoda, Deutsch, & Cook, 1959; Webb, Campbell, Schwartz, & Sechrest, 1966).

Contrived situational measures, however, do have several clear advantages over behavioral observation. First, they can be made highly efficient in evoking the behavior of interest, which in the case of infrequently occurring altruistic actions can be quite important. Second, they can be structured so that all research participants are exposed to very similar conditions. In comparisons of treatment groups, for example, this may be essential. Third, they can be designed so that they are easy to administer, thus reducing costs and difficulties in data collection. It might also be noted that the general utility of situational measures has been demonstrated recently in several areas of assessment, including personnel selection and placement (Wernimont & Campbell, 1968; Frederiksen, 1966), selection of Peace Corps volunteers (Gordon, 1967), and measurement of attitudes (DeFleur & Westie, 1958).

In view of the shortcomings of previous methods for assessing altruism in children, the present project was undertaken to develop more adequate measurement procedures. The study differed from previous efforts in two respects. First, due to the conceptual inadequacies of existing global trait measures, attention was focused upon three subconstructs of altruism--donating, helping, and sharing. In dealing with these subconstructs, however, the intent was not to develop indices of more specific traits than altruism, but rather to construct measures varying in terms of clearly delineated factors that might affect altruistic behavior (such as presence versus absence of recipient, type of contribution, etc.). The three subconstructs were selected simply because they provided a useful starting point for reconceptualizing altruism and because they covered an important range of altruistic behaviors. Second, due to the weaknesses of verbal report techniques, attention was focused upon measurement of overt behavior in contrived situations. Two measures were constructed for each of the three subconstructs. Contrived situational measures were developed, rather than procedures for naturalistic behavioral observation, because of difficulties and costs involved in application of the latter approach to altruistic behavior. In addition, it was felt that contrived situational measures would be of greater usefulness to a larger variety of researchers. For purely practical reasons, the measures were developed for eight- to eleven-year-old children (fourth, fifth, and sixth graders), since resources did not allow construction of procedures suitable for use with all ages. This particular age group was selected because it has received a great deal of attention in research on altruism.

Thus, the major purpose of the present project was the development of six contrived situational measures of altruism suitable for use with fourth- through sixth-grade children. It was intended that the measures would not require prior training of examiners, would be easy to administer, and would not involve specialized or costly equipment. Furthermore, the tasks were selected to provide direct samples of a range of important altruistic behaviors. It was hoped that they would prove useful for assessment of treatment outcomes or for measurement of individual differences in altruistic behavior.

A second major purpose of the study was the investigation of the construct of altruism. By administering six contrived situational measures of altruism to the same group of research participants, the study provided a unique opportunity to investigate the cross-situational consistency of behaviors subsumed under the ordinary-language label. Of equal significance was the possibility of interpreting the interrelationships among the measures in terms of the stimulus dimensions along which the tasks varied (e.g., presence versus absence of recipient). Such an analysis could provide information regarding the dimensions of altruistic situations of importance to many children of this age.

A third purpose was the investigation of relationships between the overt behavioral indices and ratings of altruism obtained from peers and teachers. Researchers in other areas have often studied relationships between ratings and overt behavior, but they have typically looked at the association between <u>global</u> trait ratings and <u>specific</u> behavioral indices of the same construct (see Mischel, 1968, for a review of such studies). They have seldom dealt with the issue of the relationships between ratings

and behavioral indices of the same construct, when each is considered at several levels of abstractness. It was possible to investigate this issue in the present inquiry by obtaining teacher and peer ratings on facets of altruism similar to those tapped by the behavioral measures for the same children who participated in the six contrived situations.

The final purpose of the study was the investigation of relationships between several demographic and personality characteristics of children--grade, sex, socioeconomic status, ethnicity, tending to present oneself in a socially desirable light, and scholastic ability--and overt altruistic responses. It has been standard practice in personality research to investigate relationships between such characteristics and "altruism," as assessed by performance in a single contrived situation. Due to the inclusion of six situational measures of altruism in the present project, rather than the usual one, it was possible to investigate the generality of such obtained relationships.

Method

Subjects and test administrators. The sample consisted of 22 boys and 30 girls enrolled in two fourth- through sixth-grade classrooms at the University of Hawaii Laboratory School. There were 3 boys and 7 girls in the fourth grade, 12 boys and 10 girls in the fifth grade, and 7 boys and 13 girls in the sixth grade. The sample included 17 Caucasians, 19 Japanese, 5 Chinese, 4 Filipinos, 6 Hawaiians or part-Hawaiians, and 1 Korean. The children covered a range of socioeconomic status, with the head of household listed as follows (classified according to Hollingshead's [1957] seven-level system): (a) 20 executives or proprietors of large concerns or major professionals; 2 managers or proprietors of medium-sized businesses or lesser professionals; 7 administrative personnel of large concerns, owners of small independent businesses, or semi-professionals; 12 clerical or sales workers, technicians, or owners of small businesses; 4 skilled workers; 2 semi-skilled workers; and 2 unskilled workers. Data on occupation of the head of the household were not available for three of the participants.

The adult monitor for all tasks was the same female graduate student. She was assisted on the fourth and fifth tasks by a male assistant professor.

Situational Measures. The children participated in six situational measures of altruism. The first situational measure, Contributing Prizes (Form A), dealt with the child's willingness to donate recently acquired prizes anonymously to unknown recipients. Each research participant was tested individually in a separate room in a randomly determined sequence.

When the child arrived at the room, the adult monitor stated that she was interested in finding out about the kinds of small prizes that

children the research participant's age liked. The student was then taken to a table upon which were displayed a variety of attractive prizes (e.g., gummed decals, chewing gum, candy bars, party favors and games) and was asked to choose the one that he or she liked the best. After making the choice, the child was given the object and two more just like it as a reward for helping. All three objects were placed in a paper bag so that the child's subsequent donation, or lack of it, would not appear visible to the monitor. The child was then taken to an enclosed area of the room, where he or she was asked to fill out a brief questionnaire dealing with the child's liking for the selected object.

Just prior to leaving the individual alone to complete the questionnaire, the examiner pointed to a donation container (a 12" x 12" x 6" cardboard box with a hole cut out of the top) that was for gifts donated to "children at another school who won't have a chance to get any prizes." The child was told that it was not necessary to donate any of the objects given to him or her, but children at the other school would no doubt also like to have some prizes. For each participant, the donation box contained seven objects placed there in advance to give the impression that it would not be possible for the examiner to know whether anything had been donated.

Following the instructions, the monitor returned to her seat out of sight of the child and remained there until the child brought the completed questionnaire to her. She then thanked the individual for participating and told him or her to return to class. The session took approximately 10 minutes for each person. The donation score was simply the number of objects donated and ranged from zero (no donating) to a possible value of three (high donating). A detailed description of the measure, complete instructions, and materials for its administration are presented in Appendix A.

The second task, Contributing Prizes (Form B), was almost identical to the first task. In this case, however, the child chose three different prizes instead of getting three of the same thing. Following selection of the prizes, each participant was asked to fill out a brief questionnaire requiring him or her to rank the three objects in terms of preference and rate his or her liking for each object on a 4-point scale ranging from "Like Very Much" to "Like Not At All." The remaining details of the procedure were essentially the same as for the first task, and the children were again tested in a randomly determined order. The task took approximately 10 minutes per individual. The donation score was the number of objects donated and ranged from zero (no donating) to a possible value of three (high donating). A complete description of the measure (along with instructions and materials for its administration) is presented in Appendix B.

The third situational measure, Doing Problems, concerned the child's willingness to work anonymously to benefit unknown recipients. Each child was tested individually in a separate room; the order in which the children were tested was determined by random assignment.

When the individual arrived for the session, he or she was taken to an enclosed area of the room where the adult monitor gave the instructions for the task. The research participant was informed that the examiner was interested in finding out how well boys and girls the child's age could do some new achievement test items. The problems were arranged four or five to a page. The first page dealt with English, the second with science, the third with mathematics, and the following pages repeated that sequence. Three pages of problems were prepared for each of the three content areas for a total of nine pages of problems. The child was shown a stack of 45 sheets (five sets of nine each) and was asked to do the first three

pages. No form of identification was requested on the sheets, nor were any identifying marks placed on them by the examiner; the individual was told that the adult monitor was not interested in the child's performance as an individual, but rather in how well children in general could do the problems.

Prior to leaving the child alone to do the required sheets, the examiner stated that, if the child wished, he or she could "help the poor children by doing more problems in addition to the first three sheets." The individual was informed that it was not necessary to do additional problems, but that at the end of the procedure the extra sheets would be counted and a prize would be given to the poor children for each three additional sheets that had been done. The child was then directed to place the three required pages in one container and any extra sheets in a separate container labeled "Answer Sheets Donated for the Poor Children." Extra pages of completed problems were placed in both containers prior to the child's arrival in order for it to appear that the examiner would have no way of knowing whether the child had done extra problems. Moreover, the arrangement of the nine non-repeated pages of problems in the stack of 45 was designed to convey the impression that the children were working through the stack, and the examiner would not know where the last child had stopped.

Following completion of instructions, the examiner returned to her desk out of sight of the child and remained there while the child did the problems. If the individual had not stopped work after 15 minutes, the examiner stated that the work should be completed in one more minute, and the child was stopped following the additional minute. Upon

termination of the task, the research participant was allowed to select a small prize (valued at approximately 10 cents) as a reward for participating. The session took approximately 15 minutes for most children. The helping score was the number of sheets done for the poor children and ranged from a low of zero (no helping) to a high of six (high helping). Instructions, materials, and a complete description of the procedure are given in Appendix C.

The fourth situational measure, Cutting Out Pictures, provided an index of the amount of work the child would do in public for specific strangers who requested assistance, but who were not physically present. The research participants were tested as a group in their own classroom, with two adults, one male and one female, administering the task. The instructions were tape recorded by the male examiner.

At the beginning of the session, the research participants were informed that they would be taking part in a study of how well children could tell others to do something through written instructions. They were told that students at other schools had been asked to write directions on how to complete each of several tasks involving cutting out pictures and inserting them in designated slits that had been made in sheets of paper. The research participants' job for each task was to follow the instructions and in three minutes complete as many pictures as possible for the direction writer. Each direction writer at the other schools would be rewarded according to how many pictures the research participants cut out and inserted in the proper places. If they did a lot of pictures, the direction writer would be given a nice prize; if they did few, he or she would not be given a prize.

In order to heighten the possibility of an altruistic response, each sheet of paper on which the directions were printed contained a photograph of the direction writer. In addition, the directions were preceded by a brief statement from the direction writer, giving his or her name and grade and an appeal to the research participant to do well so that the direction writer would win a prize.

Before the first task began, the participants were given a short practice trial in order to acquaint them with the procedure. Each child was also given five lunch-size paper bags (with his or her name on them) containing the specific materials for each task. For each task, the children were allowed one minute to read the directions and three minutes to work on the task. At the completion of each trial, the children were told to return all of their materials for the task to the appropriate paper bag. This procedure kept the materials for each task in order and helped keep the child's performance relatively private.

The ethnicity of the direction writer was different on each task; the variation corresponded to the five major ethnic groups in the State of Hawaii: Caucasian, Japanese, Chinese, Filipino, and Hawaiian. All children received the same photographs in the same order, except that boys were given photographs only of boys and girls only of girls. Following completion of the tasks for the five direction writers, the research participants were given a final trial that they were told involved instructions written by the researchers, rather than a student at another school. In this case, the five fastest students in the room were each given a prize as a way of rewarding the group for its participation.

The session took approximately one hour and fifteen minutes. The helping score was the total number of pictures cut out for all five direction writers and ranged from a potential low of zero (no helping) to a high of 45 (high helping). A complete description of the procedure, along with materials and instructions for administration of the task, is presented in Appendix D.

The fifth measure, Dividing Chips, dealt with the amount of recently acquired goods a child would share with a classmate, when the classmate would not know how much he or she had been given. An adult male and an adult female administered the procedure to the research participants in their regular classroom. The instructions were tape recorded by the male examiner.

Before the children arrived, the desks in the classroom were arranged in two circles, one within the other, so that each desk in one circle faced a desk in the other circle. Children occupying opposite desks served as partners. The research participants were randomly assigned to their starting positions to minimize effects arising from selection of places based on friendship or other factors that might differentially influence sharing. During the session, each child had six partners, one for each of six tasks.

The research participants were informed that the purpose of the session was to investigate how well children were able to work together in performing simple activities. These activities involved determining whether corresponding members of two sets of six-digit numbers were the same or different. One child read the numbers from his or her list while the other listened and recorded whether his or her numbers were the same

as the partner's. Each task lasted 60 seconds. Upon completion of the activity, the inner and outer circles moved in opposite directions so that new pairs were formed for the next task. The order of reading and listening alternated within each circle to provide each individual with an equal number of turns as listener and speaker.

At the beginning of the session, each child was given two lunch-size paper bags with the child's name written on the outside. One bag, marked "Partner," was empty, while the other bag, marked "Self," contained six stacks of poker chips. Each stack contained five poker chips and was held together by a rubber band. Upon completion of a task, the two children forming a pair exchanged their bags marked "Partner." Then, with the two bags held below the desk so that the other child could not see, each child opened the bag marked "Self" and removed zero to five poker chips and placed them in the partner's bag. The children were told to give their partner whatever they thought he or she deserved. Following distribution of the chips, each bag was sealed with a paper clip to keep the contents private. The bags were then returned to the partner, and, on signal, the children rotated to new partners for the next task. The research participants were told that they would be awarded one prize for each 10 chips they had at the end of the session. A maximum of 60 chips was possible.

Upon completion of the sixth task and collection of the bags, the children were informed that they would be allowed to choose their prizes later after the chips had been counted. The session took about one hour. The sharing score, which ranged from a possible low of zero (no sharing) to 30 (high sharing), was the number of chips remaining in the bag marked

"Self," subtracted from 30. A detailed description of the measure, along with materials and instructions for its administration, is presented in Appendix E.

The final situational measure, Selecting Joint Rewards, dealt with the child's decisions about how to share potential prizes with a classmate, while the classmate was making similar decisions regarding the child. Communication between the children was allowed. The research participants were tested in their regular classroom by an adult female who tape recorded the instructions in advance. Each child was paired randomly with a partner of the same sex; the two individuals forming a pair were seated facing each other.

All research participants were given a "Choice Sheet" requiring them to make a series of decisions regarding the number of potential prizes to be awarded to themselves and their partner. The Choice Sheets given to each pair of children were identical, except that the 16 decisions were numbered from 1 to 16 for one child and from 17 to 32 for the other child. Each decision involved a box containing a variable number of dots as illustrated in Figure 1.

The left side of each box represents one possibility for the number of potential prizes for the two children and the right side an alternate possibility; the number of dots on top equals the number of prizes the child may get and the number of dots on the bottom is the number that the partner may get. In Condition 1, for example, the child must choose between getting three prizes and giving his or her partner three, versus getting two prizes and giving the partner one. The first alternative is a "cooperative" choice, while the second represents a "competitive" choice.

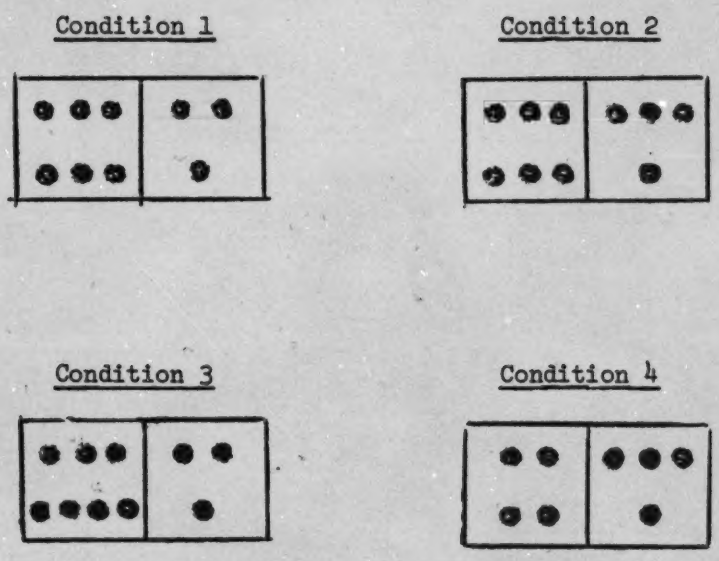

Figure 1. Four joint-reward conditions.

The 16 decisions represented four joint-reward conditions that were each repeated four times in random order on the page. Within the four repetitions of each condition, the left-right position of each alternative was counterbalanced so that each alternative appeared on the left twice and on the right twice. The four conditions, which were identical to those used by Kagen and Madsen (1972) for their two-person situational measure of "rivalry," are presented in Figure 1.

In the first condition, the choice on the left is "cooperative" or "nonrivalrous" because both children get an equal number of rewards. The choice on the right is "competitive" or "rivalrous" in that the child making the selection gets two prizes, while the partner gets only one. By choosing the right side, however, the child gets one less prize than by choosing the left side. The second condition is similar to the first, except that the "competitive" choice on the right does not result in a relative loss for the child. He or she gets three prizes either way. In the third condition, the "cooperative" choice on the left results in more prizes being given to the child's partner than to the child. Nevertheless, the child gets three prizes by choosing this alternative and only two for choosing the alternative on the right. In the fourth condition, the "competitive" choice on the right results in a relative gain of one point for the child over the "cooperative" choice on the left.

The children were told at the beginning of the session that they were to choose either the left side or the right side of each box, place an X on the side they chose, and record the number of potential prizes for themselves and their partner. They were further informed that one of the 32 choices made by themselves and their partner would be used to award prizes to them at the end of the session. The particular box that was

used was determined randomly in advance, and, for that box, they received one prize (valued at approximately 10 cents each) for each dot assigned to them. Communication between partners was allowed, so that the children could negotiate mutually advantageous joint rewards if they wished. That option, plus the possibility that the partner would later find out how many prizes the child had awarded him or her on one choice, tended to make the decision process public.

The session took less than one hour. The "sharing" or "cooperation" score for the task was the total number of points assigned to the partner; it ranged from a potential low of 16 ("rivalrous" or low "sharing") to a high of 48 ("nonrivalrous" or high "sharing"). Instructions, materials, and a complete description of the measure are provided in Appendix F.

Taken together, the six situational measures of altruism varied along several dimensions: (a) the ordinary-language label that might reasonably be applied to the act--"donating," "helping," or "sharing"; (b) the type of contribution--material goods or help, (c) whether the act was performed in private or in public; (d) the degree to which the recipient or anyone else would be aware of whether the child had contributed anything; (e) the degree of prior contact with the recipient--whether he or she was a stranger or a classmate; (f) the extent to which the recipient's presence was made salient for the child--whether he or she was physically distant, portrayed by a picture and written communication, or was physically present during the act; and (g) the apparent degree of opportunity for direct self-gain from the act. These defining characteristics are summarized in Table 1 for the situational measures.

Verbal-Report Measures. Two paper-and-pencil instruments were also administered to the children: a Peer Rating Form and the Children's

Table 1

Major Characteristics of Situational Measures of Altruism

Name of task	Ordinary language label	Type of contribution	Type of setting	Anonymity of act	Degree of prior contact with recipient	Saliency of recipient	Possibility of direct self-gain
Contributing Prizes (Forms A and B)	Donating	Goods	Private	High	Low	Low	Low
Doing Problems	Helping	Work	Private	High	Low	Low	Low
Cutting Out Pictures	Helping	Work	Public	High	Low	Moderate	Low
Dividing Chips	Sharing	Goods	Public	High	High	High	Low
Selecting Joint Rewards	Sharing	Goods	Public	Moderate to Low	High	High	High

Social Desirability Scale developed by Crandall, Crandall, and Katkovsky (1965).

The Peer Rating Form is a 14-item peer-nomination device containing 10 items that deal with six ordinary-language facets of altruism (donating, helping, sharing, sympathizing, rescuing or protecting, and cooperating). Four items also deal with non-prosocial constructs (popularity, excellence in academic work, leadership, and friendliness). The form requires the child to name three male classmates and three female classmates, excluding himself or herself, who best exemplify each behavioral statement. For example, item 7 asks "which boys (girls) protect and defend a child who is in danger of being harmed by another child or other children? (For example, trying to stop another child from taking things away from a weaker child; sticking up for a kid who others are teasing or talking about; trying to break up an unfair fight.)" Each item is placed on a separate page and is repeated twice, asking first for the names of three boys who fit the description and then for the names of three girls. A special feature of the rating procedure is that if a child is not sure of a choice, he or she may communicate that by circling the name. The complete rating form is presented in Appendix G.

The children took about 30 minutes to complete the Peer Rating Form. Each item was scored separately by summing the number of times each child was nominated for the item. Circled names were not included in the total. The sum for each child was then converted to a percentage by dividing by the total number of children in the classroom and multiplying the result by 100. The score for each item for each child ranged from a low of zero (not descriptive) to a high of 100 (highly descriptive).

The Children's Social Desirability Scale (Crandall, Crandall, & Katkovsky, 1965) is a rationally-constructed true-false questionnaire that deals with the child's tendency to present a favorable picture of himself. The 48 items on the scale deal with behaviors that have clear social desirability in contemporary United States society, but which most children perform in the undesirable direction. For example, item 17 states "I never shout when I feel angry." Children who answer many such items in the socially desirable direction get high scores on the scale and are assumed to be attempting to present a favorable, but inaccurate, picture of themselves. The scores on the scale range from zero (low social desirability responding) to 48 (high social desirability responding). A copy of the inventory is presented in Appendix H. The research participants completed the scale in approximately 30 minutes.

The final measure, which was completed by two classroom teachers familiar with the children, was the Teacher Rating Form. This rating device deals with the same 14 behaviors included in the Peer Rating Form. In this case, however, the judge is requested to rate each child on a scale from 1 (Not descriptive or true) to 7 (Definitely descriptive or true). The ratings are made by writing each student's name in a column corresponding to the category that the rater believes is appropriate for the child. All the ratings for a single item are done on one page, and the rater may revise earlier ratings as the rating procedure progresses for a particular item. No restrictions are placed on the number of individuals assigned to each category. Raters are encouraged to complete all their ratings for a particular item before going on to the next item and to approach each item independently of previous ones. Raters are also allowed to indicate unsureness regarding particular ratings by circling the child's name. A copy of the Teacher Rating Form is presented in Appendix I.

The two teachers took approximately three to four hours to rate all research participants on the 14 items. Each item was scored separately for each child by averaging the ratings for the two judges; circled names were not counted. The resulting scores ranged from 1 (not descriptive) to 7 (definitely descriptive).

Procedure. At the time that parental approval was obtained for the children's participation (see Appendix J for a copy of the letter of consent), the two classroom teachers informed the children that they would soon be participating in a series of tasks conducted by a researcher at the University of Hawaii.

Testing began following Christmas vacation and continued through May. Each child received the tasks in the same sequence, with all children being tested with one measure before any were tested with the next. The order of administration of the measures, the number of days intervening between each, the number of consecutive days over which testing for a task extended, and the number of children participating in each measure are presented in Table 2. Note that the second administration of the last situational measure, Selecting Joint Rewards, differed from the first administration only in that the children were randomly assigned to new partners.

Following completion of all testing, two teachers familiar with the children completed the Teacher Rating Form.

Table 2

Description of Testing Schedule and

Number of Children Participating in Each Task

Name of Task	Order of administration	Number of days from termination of previous task	Number of days of testing[a]	Number of participants
Contributing Prizes-A	1	---	9	51
Contributing Prizes-B	2	0	9	52
Doing Problems	3	19	9	52
Cutting Out Pictures	4	35	2	52
Dividing Chips	5	33	1	46
Selecting Joint Rewards-1	6	6	1	51
Selecting Joint Rewards-2	7	16	1	47
Children's Social Desirability Scale	8	6	1	46
Peer Rating Form				

[a]This represents the number of consecutive days over which the total sample of children were tested on a particular task.

Results

The findings of the present study are divided into four sections: (a) description of the situational measures; (b) interrelationships among the situational measures; (c) correlations between ratings of altruism and overt situational performance; and (d) correlations between selected demographic and personality characteristics and behavior in contrived situations.

Description of Situational Measures

The means and standard deviations for the seven situational measures are presented in Table 3, along with the percentages of children at each score level. Inspection of the percentages reveals that all of the measures elicited a range of responses, although the later tasks of course exhibited greater variation due to the wider range of scores possible. Both of the first two tasks, Contributing Prizes-Form A and Contributing Prizes-Form B, produced positively skewed distributions, with most of the children either donating one prize (65% and 50%) or nothing (25% and 48%). Form B, which was administered after Form A, evoked less donation (52%) than Form A (75%). The third task, Doing Problems, had an approximately bimodal, skewed distribution, with large percentages of children either doing no extra sheets of problems for the poor children (35%) or doing three sheets (33%). The large percentage of children contributing three sheets was probably due to the reference in the instructions to giving the poor children a prize for every three sheets that were contributed; requiring the children to do three sheets prior to contributing may also have had an effect. The fourth task, Cutting Out Pictures, produced a fairly even spread of individuals over the interval from 15 to 44 pictures. The number of scores gradually increased up to around 33-35 and then gradually decreased. Dividing Chips, the fifth situational measure, produced a strongly negatively skewed distribution, with a buildup of scores

Table 3

Percentage of Children at Each Score Level, Mean, and Standard Deviation for Seven Situational Measures of Altruism

Percentage of children receiving each score										Mean	Sta. dev.
Contributing Prizes (N=51; 52)											
Score (number of objects donated)											
	0	1	2	3							
Form A (N=51)	25	65	10	00						.84	.58
Form B (N=52)	48	50	02	00						.54	.54
Doing Problems (N=52)											
Score (number of sheets donated)											
0	1	2	3	4	5	6					
35	19	06	33	00	04	04				1.71	1.68
Cutting Out Pictures (N=52)											
Score (number of pictures cut out)											
15-17	18-20	21-23	24-26	27-29	30-32	33-35	36-38	39-41	42-44		
04	08	10	13	10	15	19	10	06	06	29.83	7.15
Dividing Chips (N=46)											
Score (number of chips given to partners)											
1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30		
00	02	04	02	11	20	11	07	20	24	21.22	6.93
Selecting Joint Rewards (N=51;47)											
Score (number of points given to partner)											
	22-24	25-27	28-30	31-33	34-36	37-39	40-42	43-45	46-48		
Time 1 (N=51)	02	02	08	10	08	14	10	06	41	40.76	7.20
Time 2 (N=47)	00	00	11	00	13	11	15	06	47	42.30	6.22

around a 50-50 split (15 chips for partners and 15 for self) and around a highly altruistic split (25-30 chips for partners and 0-5 for self). The final two situational measures, Selecting Joint Rewards at time 1 and at time 2, also produced a strongly negatively skewed distribution. A slight tendency existed--especially on the second administration--for the number of points given to partners to pile up around 37-39, although a much larger cluster of individuals occurred around the maximum number of points of 48. The latter score represented a completely nonrivalrous "cooperative" approach to the task.

Interrelationships Among Situational Measures

The interrelationships among the seven situational measures are presented in Table 4. In computing these correlations, missing data were eliminated for each pair of variables independently of other pairs of variables (i.e., "pairwise deletion" of missing data), and therefore the coefficients reported in the table are based upon varying numbers of participants. The number of individuals underlying a correlation is presented in parentheses immediately below the coefficient.

Inspection of Table 4 reveals that the parallel form of Contributing Prizes (Contributing Prizes-B), administered immediately following Form A, did not correlate significantly with its alternate form, nor with any of the other behavioral indices. Prior administration of Form A apparently produced some type of reactive testing effect on Form B. The remaining six measures split into two distinct and essentially uncorrelated clusters. The first group consisted of Contributing Prizes (Form A), Doing Problems, and Cutting Out Pictures, all of which correlated to a low but statistically significant degree (r = .28, .37, .36). Since these measures all dealt with "donating" in some sense, the cluster was given the summary label of "Donating." The second group

Table 4

Intercorrelations among Seven Situational Measures of Altruism

Name of measure	Correlations					
	2. Contributing Prizes-B	3. Doing Problems	4. Cutting Out Pictures	5. Dividing Chips	6. Selecting Joint Rewards 1	7. Selecting Joint Rewards 2
1. Contributing Prizes - A	15 (51)	28* (51)	37** (51)	15 (45)	-04 (50)	05 (46)
2. Contributing Prizes - B		04 (52)	-17 (52)	21 (46)	00 (51)	-10 (47)
3. Doing Problems			36** (52)	19 (46)	00 (51)	-06 (47)
4. Cutting Out Pictures				02 (46)	-09 (51)	11 (47)
5. Dividing Chips					29* (45)	29* (42)
6. Selecting Joint Rewards - 1						51*** (47)
7. Selecting Joint Rewards - 2						

Note. Decimals have been omitted for all correlation coefficients. The number of participants upon which each correlation coefficient is based is listed in parentheses below the coefficient.

* $p < .05$.
** $p < .01$.
*** $p < .001$.

was formed by Dividing Chips, Selecting Joint Rewards-Administration 1, and Selecting Joint Rewards-Administration 2. Dividing Chips correlated to a low but significant degree with the two administrations of Selecting Joint Rewards (r = .29, .29), while the latter two correlated to a more moderate degree with each other (r = .51). The relationship between the two administrations of Selecting Joint Rewards, by the way, does not represent a simple test-retest correlation, inasmuch as the children had different partners on the two occasions. Of course, they also had an opportunity to observe--and react to--the outcome of the strategy they adopted during the first administration, before participating in the second. Since the three tasks dealt with face to face sharing of material goods, the cluster was given the summary label of "Sharing." The average of the 21 correlations among the 7 situational measures was .12. The averages for the two clusters were .34 (Contributing Prizes-A, Doing Problems, Cutting Out Pictures) and .36 (Dividing Chips, Selecting Joint Rewards-1, Selecting Joint Rewards-2).

The intercorrelations among the seven situational measures were also analyzed in two additional ways. First, the correlations were computed for a reduced sample of 41 children who had complete data on all seven measures. Those correlations are reported in Table 5. As can be seen, the same pattern of relationships was obtained, and, in fact, the correlations within the two clusters were generally higher than before. The average intercorrelation among the six different measures (eliminating the second administration of Selecting Joint Rewards) was .15 and this increased to .21 when Contributing Prizes-B was eliminated. The average intercorrelation for "Donating" tasks (Contributing Prizes-A, Doing Problems, Cutting Out Pictures) was .41 and for "Sharing" tasks (Dividing Chips versus Selecting Joint Rewards-1 and Selecting Joint Rewards-2) .37. The means and standard deviations for the seven measures were similar to those reported earlier (Table 3) for the larger sample.

Table 5

Intercorrelations among Seven Situational Measures of Altruism (N=41)

Name of measure	Correlations						Mean	Standard Deviation
	2. Contrib. Prizes-B	3. Doing Problems	4. Cutting Out Pictures	5. Dividing Chips	6. Select. Joint Rewards-1	7. Select. Joint Rewards-2		
1. Contributing Prizes-A	22	40**	37**	14	15	06	.80	.56
2. Contributing Prizes-B		-01	-17	17	-01	-07	.58	.55
3. Doing Problems			45***	18	-04	01	1.85	1.75
4. Cutting Out Pictures				04	-04	17	30.07	7.56
5. Dividing Chips					41**	32*	22.15	6.55
6. Selecting Joint Rewards - 1						61***	41.24	6.93
7. Selecting Joint Rewards - 2							41.85	6.41

Note. Decimals have been omitted for all correlations coefficients.

* $p < .05$.
** $p < .01$.
*** $p < .001$.

The second additional analysis involved computing the intercorrelations between the seven measures when they were each scored dichotomously. For the first three situations, scores were placed in either a no-donation or a donation group; for the remaining situations, scores were divided at the median. The resulting correlations are presented in Table 6. Again the same pattern of relationships emerged, except that the correlation between Dividing Chips and Selecting Joint Rewards-2 was not statistically significant. The average intercorrelation was .37 for "Donating" tasks and .35 for "Sharing" tasks.

Although it was not necessary in view of the clarity of the pattern of relationships reported above, the matrix of intercorrelations for the reduced sample of 41 children was nevertheless subjected to a principal components factor analysis. After the matrix had been analyzed into its principal components, the three components with eigenvalues greater than one were rotated to orthogonal simple structure according to Kaiser's (1958) varimax criterion. The rotated factor loadings are reported in Table 7. The percentages of variance accounted for by the principal components (prior to rotation) are listed in the last row of the table, and the communalities (h^2) for the situational measures are given in the last column. The data in Table 7 merely confirm what has already been domonstrated. Three factors were extracted, which together accounted for 72% of the variance. The first factor was marked by Dividing Chips, Selecting Joint Rewards-1, and Selecting Joint Rewards-2; the second factor was defined by Contributing Prizes-A, Doing Problems, and Cutting Out Pictures; and the third factor was uniquely marked by Contributing Prizes-B.

Relationships Between Ratings and Situational Measures of Altruism

Relationships between ratings of altruism and overt behavioral indices

Table 6

Intercorrelations among Seven Situational Measures of Altruism

(Dichotomously Scored)

Name of measure	Correlations					
	2. Contributing Prizes - B	3. Doing Problems	4. Cutting Out Pictures	5. Dividing Chips	6. Selecting Joint Rewards 1	7. Selecting Joint Rewards 2
1. Contributing Prizes - A	-01 (51)	32* (51)	46*** (51)	-09 (45)	09 (50)	00 (46)
2. Contributing Prizes - B		03 (52)	-16 (52)	04 (46)	01 (51)	-11 (47)
3. Doing Problems			33** (52)	09 (46)	03 (51)	-10 (47)
4. Cutting Out Pictures				-13 (46)	-03 (51)	-13 (47)
5. Dividing Chips					38** (45)	18 (42)
6. Selecting Joint Rewards - 1						48*** (47)
7. Selecting Joint Rewards - 2						

Note. Decimals have been omitted for all correlation coefficients. The number of participants upon which each correlation coefficient is based is listed in parentheses below the coefficient.

* $p < .05$.
** $p < .01$.
*** $p < .001$.

Table 7

Rotated Factor Pattern for Seven Situational Measures (N=41)

Name of measure	Factor Loadings I	II	III	h^2
1. Contributing Prizes - A		71	37	65
2. Contributing Prizes - B			91	83
3. Doing Problems		81		66
4. Cutting Out Pictures		79	-32	73
5. Dividing Chips	64		35	56
6. Selecting Joint Rewards - 1	88			78
7. Selecting Joint Rewards - 2	84			75
Percentage of variance[a]	30	24	18	

Note. Factor loadings less than .30 have been arbitrarily eliminated; decimals have been omitted.

[a]These values are for the unrotated principal components.

of the same construct were investigated at three levels of abstractness. At the most specific level, the 10 moderately specific rating indices and the 7 specific situational measures were treated as individual items. At the next level, ratings and behavioral indices were grouped separately into more global principal component factors. At the final level of abstractness, a single summary index was constructed for the ratings and for the situational measures. Comparisons of each level of ratings with each level of overt behavior produced nine sets of intercorrelations.

The intercorrelations among moderately specific ratings and specific situational measures of altruistic behavior are presented in Table 8. These data are based upon the responses of the 41 children who participated in all seven situational measures. The essential content of each rating index is summarized at the top of each column of the table. Correlations for peer ratings are presented on the first line of each comparison; those for teacher ratings on the second line; and those for combined teacher and peer ratings on the third line. The latter were obtained separately converting peer ratings and teacher ratings to standard scores and then averaging the two scores for each ratee.

In general, Table 8 reveals many differences in judgment, at least in magnitude of association, between peers and teachers. Moreover, the pattern of relationships across the specific indices appears complex. The strongest cluster of relationships, in terms of consistency across both peer and teacher ratings, emerged between the situational measures of "Sharing" (Dividing Chips, Selecting Joint Rewards-1, Selecting Joint Rewards-2) and the rating "will not help others" (average $\underline{r} = -.38$). None of the behavioral measures of "Sharing," however, correlated with the

Correlations between Seven Situational Measures and Ten Rating Indices of Altruism (N=41)

Situational measure	Rating index: Works well with others	Competes	Comforts Reassures	Helps others having diffic.	Will not help others	Advises Interprets	Protects Defends	Helps others in distress	Gives gifts	Shares
Contributing	35*	12	24	29*	-11	39**	07	10	10	-03
Prizes - A	24	28*	15	22	-08	50***	19	17	-06	05
	33*	25	24	31*	-11	53***	16	16	03	01
Contributing	21	10	20	17	04	25	35*	18	16	08
Prizes - B	31*	07	30*	27*	-08	31*	52***	36*	-01	24
	30*	10	31*	26*	-02	33*	54***	32*	11	21
Doing	03	02	-02	02	-16	03	-05	-16	-20	-24
Problems	00	27*	22	17	-02	33*	23	17	04	00
	02	19	12	12	-11	22	12	00	-11	-16
Cutting out	08	25	24	25	-08	21	06	26	-01	-03
Pictures	05	21	08	01	03	17	00	00	-09	-10
	08	28*	20	15	-03	23	03	16	-06	-09
Dividing	14	-29*	16	09	-30*	00	-02	12	-05	04
Chips	07	01	09	01	-17	04	-03	13	-03	04
	12	-16	16	06	-28*	02	-03	15	-06	05
Selecting Joint	23	-49***	16	-01	-47***	03	-22	-01	-02	-11
Rewards - 1	04	-08	25	04	-33*	-11	-03	21	-05	01
	15	-33*	25	02	-47*	-05	-15	12	-04	-06
Selecting Joint	21	-25	19	18	-55***	19	-07	17	-18	-18
Rewards - 2	20	-13	31*	14	-33*	14	-01	23	16	17
	23	-22	31*	19	-52***	20	-05	24	-02	-01

Note. Correlations with peer ratings are presented on the first line; those with teacher ratings on the second line; and those with combined ratings on the third line. Decimals have been omitted.

* $p < .05$.
** $p < .01$.
*** $p < .001$.

rating indices "Shares" or "Gives gifts." Indeed, no behavioral index related significantly to these two rating indices. The two administrations of Selecting Joint Rewards, which dealt with "cooperative" and "competitive" sharing of goods, correlated significantly negatively with the rating "Competes" for peers (average $r = -.37$), but not for teachers (average $r = -.11$). Form A of Contributing Prizes also correlated significantly with peer and teacher ratings on several items. Eighteen percent of the correlations were statistically significant.

As a first step in investigating relationships between more global rating indices and specific behaviors, the intercorrelations among the 10 rating indices were first computed separately for peers, teachers, and combined peers and teachers. These correlations are presented in Table 9. Each matrix of correlations was then analyzed into its principal components and those components with eigenvalues greater than one were rotated to orthogonal simple structure according to the Varimax criterion (Kaiser, 1958). The rotated factor-pattern matrices are presented in Table 10.

Three factors emerged for peer ratings. The first appeared to be a large "General Altruism" factor marked by most of the rating indices. As indicated by the intercorrelations in Table 9, peer ratings tended to be highly intercorrelated generally. The second factor was loaded almost exclusively by "Gives gifts" and "Shares," both of which ordinarily deal with giving or dividing material goods in face-to-face interactions. For ease of communication, the factor was labeled "Face-to-face Giving." The third factor was composed primarily of the two negatively-keyed items, "Competes" and "Will not help others," although "Protects-Defends" also loaded moderately and positively on it. The first two items indicate that

Table 9

Means, Standard Deviations, and Intercorrelations among Ten Rating Indices of Altruism (N=52)

	Item	Correlations 2. Competes	3. Comforts Reassures	4. Helps others having difficulty	5. Will not help others	6. Advises Interprets	7. Protects Defends	8. Helps others in distress	9. Gives gifts	10. Shares	Mean	Standard Deviation
1.	Works well with others	-09 03 -04	77*** 60*** 73***	75*** 61*** 80***	-50*** -57 -62***	83*** 42*** 72***	35** 45*** 44***	74*** 60*** 75***	42*** 41*** 36**	44*** 64*** 56***	21.52 5.19 0.00	21.08 1.37 1.77
2.	Competes		00 -05 -07	16 29* 19	54*** 38** 59***	19 34** 29*	40** 21 27*	-04 -05 -17	14 -06 05	16 -22 -11	19.98 3.54 0.00	20.07 1.57 1.66
3.	Comforts, Reassures			77*** 73*** 82***	-40*** -65*** -63***	77*** 54*** 69***	44*** 73*** 56***	74*** 81*** 81***	43*** 63*** 47***	50*** 73*** 59***	19.85 4.75 0.00	15.10 1.52 1.61
4.	Helps others having difficulty				-44*** -53*** -50***	87*** 63*** 80***	61*** 73*** 65***	72*** 69*** 77***	27* 45*** 37**	46*** 55*** 53***	21.27 4.68 0.00	13.88 1.35 1.65
5.	Will not help others					-38** -34** -36**	00 -41*** -19	-39** -60*** -65***	00 -47*** -27*	-01 -73*** -41***	16.63 1.97 0.00	15.12 1.00 1.75
6.	Advises, Interprets						53*** 64*** 57***	67*** 43*** 63***	38** 38** 31*	50*** 45*** 45***	20.79 4.01 0.00	16.10 .93 1.69
7.	Protects, Defends							39** 59*** 46***	32* 48*** 39**	47*** 59*** 51***	18.60 4.75 0.00	16.52 1.23 1.58
8.	Helps others in distress								45*** 41*** 39**	52*** 63*** 56***	20.23 5.68 0.00	15.50 .81 1.66
9.	Gives gifts									70*** 77*** 75***	17.52 7.13 0.00	12.38 .94 1.51
10.	Shares										20.40 5.19 0.00	12.38 1.01 1.59

Note. Correlations for peers are presented on the first line; those for teachers on the second; and those for the combined group on the third. Decimals have been omitted.

* $p < .05$.
** $p < .01$.
*** $p < .001$.

Table 10

Rotated Factor Patterns for Ten Rating Indices of Altruism (N=52)

	Factor loadings										
	Peers				Teachers			Combined Group			
	I	II	III	h^2	I	II	h^2	I	II	III	h^2
1. Works well with others	84			82	70		55	84			79
2. Competes			92	85	-34	86	85			94	91
3. Comforts, Reassures	82	33		79	86	30	83	82	34		83
4. Helps others having difficulty	94			92	65	62	81	93			91
5. Will not help others	-58		67	81	-86		77	-56		74	88
6. Advises, Interprets	90			87	44	69	67	87			82
7. Protects, Defends	56		57	67	61	59	73	60	41	32	63
8. Helps others in distress	75	40		74	78		68	80		-32	81
9. Gives gifts		91		87	71		52		93		89
10. Shares	34	82		81	91		83	38	83		87
Percentage of variance[a]	52	11	19		56	16		56	11	17	

Note. Factor loadings less than .30 have been arbitrarily eliminated; decimals have been omitted.

[a]These values are for the unrotated principal components.

the factor is dealing with competition, while the third, in the context of the first two, gives the dimension an assertive, dominating quality. Other researchers, in fact, have argued that protecting and defending have an "aggressive anti-authority" quality (Hoffman, 1970). For convenience, the factor was labeled "Competing-Dominating," although that name does not completely convey the complex nature of the dimension.

The two rotated factors for teachers appeared to consist of, first, a "General Altruism" factor and, second, perhaps an "Asserting-Leading" dimension. The first factor seemed best called "General Altruism" in view of the reasonably high loadings on it by virtually all of the items, except, "Competes." Apparently, the teachers did not differentiate highly in terms of the specific subcomponents of altruism. The second factor was loaded most highly by "Competes," although there were also substantial loadings by "Helps others having difficulty," "Advises-Interprets," and "Protects-Defends." In view of the positive focus of these latter items, as well as the correlation between this factor and a separate rating of leadership, it seemed fair to label the dimension "Asserting-Leading." The factor, in any event, did not have the negative focus of the similar factor for children.

The three factors for the combined ratings closely paralleled those obtained for peers. The first represented "General Altruism," the second "Face-to-face Giving," and the third "Competing-Not Helping." The third factor had an even more negative focus than the similar factor obtained for peers. The two highest loadings were "Competes" and "Will not help others"; "Protects-Defends" had a low loading of .32; and "Helps others in distress" actually correlated negatively with the dimension.

Factor scores were computed for each of these eight dimensions for the 41 children who had complete Data on the seven situational measures. The correlations between these scores and performance in the contrived situations are reported in Table 11. In considering these correlations, note first that all seven situational measures correlated positively with "General Altruism" for peers, although only two of the seven correlations were statistically significant (r = .31, .32). The pattern was much weaker for teachers, even though six of the seven correlations were positive and one was statistically significant (r = .27). Nevertheless, the relationships were sufficiently similar for peers and teachers on this "General Altruism" factor to produce slightly stronger correlations when the ratings were combined. Three of the seven coefficients were statistically significant (r = .41, .35, .29) for the combined ratings.

With regard to the second factor for peers, "Face-to-face Giving," the direction for the correlations also exhibited some weak degree of consistency across all seven behavioral measures. However, the correlations were negative, with two being statistically significant (r = -.29, -.27). In the combined group, the same weak tendency emerged, but none of the correlations were statistically significant.

Peer ratings on the final dimension, "Competing-Dominating," Correlated negatively, and statistically significantly, consistently with all three "Sharing" tasks (r = -.29, -.54, -.35). Although this tendency was virtually nonexistent for teachers, there was apparently sufficient agreement to produce a similar pattern when the ratings were combined (r = -.24, -.45, -.35). The different nature of this factor for teachers is conveyed by the consistently positive, and largely statistically significant, correlations between "Competing-Leading" and the three "Donating"

Table 11

Correlations between Seven Situational Measures and Rating Factors of Altruism (N=41)

Situational measure	Rating factors: Peers I General Altruism	Peers II Face-to face Giving	Peers III Competing Asserting	Teachers I General Altruism	Teachers II Competing Leading	Combined I General Altruism	Combined II Face-to face Giving	Combined III Competing Not Helping
Contributing Prizes - A	31*	-05	06	06	41**	41**	-11	20
Contributing Prizes - B	22	08	18	23	30*	35*	12	17
Doing Problems	08	-29*	-02	03	35*	20	-19	13
Cutting Out Pictures	25	-09	14	-07	20	24	-15	17
Dividing Chips	14	-02	-29*	08	-02	12	-06	-24
Selecting Joint Rewards - 1	12	-05	-54***	16	-13	11	-12	-45**
Selecting Joint Rewards - 2	32*	-27*	-35*	27*	-07	29*	-14	-35*

Note. Decimals have been eliminated.

* $p < .05$.
** $p < .01$.
*** $p < .001$.

tasks, including Contributing Prizes-B (r =.41, .30, .35, .20). This pattern was not mirrored sufficiently in peer ratings to produce statistically significant association for combined ratings.

In general, at this level of analysis, the agreement between peer and teacher ratings appeared to be better than at the previous level of analysis. Although the magnitude of correlations with situational measures differed frequently, the direction of the relationships was typically the same. This agreement in direction of relationships was sufficient to produce statistically significant correlations in combined ratings between several situational measures and "General Altruism" and "Competing-Not Helping." In the cases, however, where agreement was less strong or did not occur, combination of ratings of course substantially reduced the magnitude of relationships below that which had been obtained for peers or for teachers alone. Twenty-nine percent of the correlations were significant at this level.

The next stage of analysis involved computing a single summary rating index for peers, for teachers, and for teachers and peers combined. To accomplish this, the loadings of the 10 rating indices on the unrotated first principal component were obtained for each of the three groups. Since the first principal component is a good index of what a set of variables have in common, loadings on that component can be used analogously to item-total score correlations. Items that correlate weakly with the first principal component are not measuring whatever the other variables have in common; those that correlate negatively simply need to have their direction of keying reversed to contribute positively to the summary score.

The loadings of the 10 rating indices on each of the three principal components are reported in Table 12. Those loadings reveal that the item, "Competes," was not measuring anything in common with the other items.

Table 12

Loadings on the First Principal Component for Ten Rating Measures of Altruism (N=52)

Item	Factor Loadings		
	Peers	Teachers	Combined
1. Works well with others	87	74	86
2. Competes	09	01	-02
3. Comforts, Reassures	88	91	91
4. Helps others having difficulty	89	84	90
5. Will not help others	-42	-75	-66
6. Advises, Interprets	90	67	80
7. Protects, Defends	61	79	67
8. Helps others in distress	84	82	87
9. Gives gifts	57	70	58
10. Shares	67	86	74

Note. Decimals have been omitted.

The magnitudes of the remaining loadings indicate that a good summary index could be created for each set of ratings by combining the remaining nine items. Naturally, the direction of keying needed to be reversed for the item "will not help others." The nine items were combined for each group by converting the raw scores for the 52 children to standard scores separately for each item and then averaging the standard scores. The resulting summary indices therefore had means of zero and standard deviations of one for the total group of 52 children.

The correlations between the seven situational measures and three summary rating indices of altruism are presented in Table 13. Inspection of the table reveals only three significant correlations (14% of the total), none of which were greater than .34. Two of these were with Contributing Prizes-Form B (r =.33, .34) and the other one was with Contributing Prizes-Form A (r = .27). The summary peer rating index did not correlate significantly with any of the situational measures. Obviously, at this level of analysis--which is the typical one used in personality research--ratings of altruism did not correlate with overt behavioral measures of the same construct.

The next level of analysis involved obtaining the same series of intercorrelations between ratings and behavior for situational performance considered at the more abstract level of principal component factors. Thus, correlations were computed between factor scores on the rotated principal component dimensions obtained earlier ("Sharing," "Donating," and Contributing Prizes-Form B) and the individual rating indices, the principal component rating factors, and the summary rating index. Each analysis was performed separately for peers, teachers, and peers and

Table 13

Correlations between Seven Situational Measures and a Summary Rating Index of Altruism (N=41)

Situational measure	Summary rating index		
	Peers	Teachers	Combined
Contributing Prizes - A	24	22	27*
Contributing Prizes - B	23	33*	34*
Doing Problems	-06	17	06
Cutting Out Pictures	17	01	10
Dividing Chips	11	07	11
Selecting Joint Rewards - 1	08	10	10
Selecting Joint Rewards - 2	16	24	23

Note. Decimals have been eliminated.

* $p < .05$.
** $p < .01$.
*** $p < .001$.

teachers combined for the 41 research participants with complete data on all seven situational measures. The correlations between the three situational factors and the rating indices, rating factors, and summary rating index are presented in Tables 14, 15, and 16, respectively.

The major substantive findings regarding relationships between ratings and situational measures have already been presented in Tables 8, 11, and 13. The interested reader, of course, may wish to compare the correlations in Tables 14, 15, and 16 with those in the earlier tables. For present purposes, however, the important issue was the general trend in relationships as a function of globalness of ratings. At the most specific level--situational factors versus moderately specific rating indices (see Table 14)--21% of all correlations were statistically significant and coefficients ranged as high as -.56. Several correlations were in the .40s. At a more abstract level--situational factors versus rating factors (see Table 15)--29% of the correlations were statistically significant and the values ranged as high as -.51. Again, several of the correlations were in the .40s. At the most global level--situational factors versus summary rating index (see Table 16)--two statistically significant correlations were obtained (22% of the total number). These two correlations were for the most specific situational factor--the one marked by a single situational measure (Contributing Prizes-B). Moreover, the highest correlation was .28, and the remaining coefficients did not exceed .19.

The final analyses involved computation of correlations between the most global representation of altruistic behavior--a single summary index--and the same three levels of rating variables dealt with previously--moderately specific rating indices, rating factors, and a summary rating index.

Table 14

Correlations between Three Situational Factors and Ten Rating Indices of Altruism (N=41)

Situational factor	Rating index: Works well with others	Competes	Comforts Reassures	Helps others having diffic.	Will not help others	Advises Interprets	Protects Defends	Helps others in distress	Gives gifts	Shares
I Sharing	24	-44**	20	10	-56***	09	-15	11	-10	-11
	12	-11	26*	07	-36*	00	-06	22	04	09
	21	-32*	29*	10	-53***	05	-13	20	-05	-02
II Donating	16	20	17	22	-12	25	04	08	-06	-12
	10	33*	16	15	00	42**	16	12	-04	-04
	15	32*	21	23	-07	39**	13	12	-07	-11
III Contributing	22	02	15	12	06	20	27*	09	17	10
Prizes - B	26*	10	20	23	-06	31*	44**	30*	-04	20
	27*	08	22	21	00	30*	44**	23	10	19

Note. Correlations with peer ratings are given on the first line, those with teacher ratings on the second line, and those with combined ratings on the third line. Decimals have been omitted.

* $p < .05$.
** $p < .01$.
*** $p < .001$.

Table 15

Correlations between Three Situational Factors

and Rating Factors of Altruism (N=41)

	Rating factors							
	Peers			Teachers		Combined		
	I	II	III	I	II	I	II	III
Situational factor	General Altruism	Face-to face Giving	Competing Asserting	General Altruism	Competing Leading	General Altruism	Face-to face Giving	Competing Not Helping
I. Sharing	23	-14	-51***	22	-13	19	-13	-46***
II. Donating	25	-18	11	-02	40**	34*	-19	24
III. Contributing Prizes-B	15	12	11	17	30*	28*	11	15

Note. Decimals have been omitted.

* p .05.
** p .01.
*** p .001.

Table 16

Correlations between Three Situational Factors and a Summary Rating Index of Altruism (N=41)

Situational factor	Summary rating index		
	Peers	Teachers	Combined
I. Sharing	14	15	17
II. Donating	13	15	16
III. Contributing Prizes - B	19	28*	28*

Note. Decimals have been omitted.

* $p < .05$.
** $p < .01$.
*** $p < .001$.

The summary situational index was constructed in the same way as the summary rating index. First, from the principal components analysis performed earlier with the seven situational measures, the loadings on the unrotated first principal component were extracted. These loadings, reported in Table 17, revealed that all but one of the situational measures (Contributing Prizes-B) correlated to a substantial degree with the first principal component. These six situational measures were therefore combined to produce a summary index of altruistic behavior. The index was computed by converting raw scores to standard scores separately for each situational measure. The six standard scores were then averaged for each individual to produce a single summary score.

The correlations between the summary situational index and the three levels of ratings variables are presented in Table 18. The interested reader may wish to inspect these correlations in connection with those reported in the previous tables (Tables 8, 11, 13, 14, 15, 16). For present purposes, however, it is sufficient to note the pattern of relationships. First, 30% of the correlations between the global behavioral index and the 10 moderately specific rating indices were statistically significant. The highest coefficient was -.47 and several of the correlations were in the .30s and .40s. Second, of the eight correlations between the summary index of altruistic behavior and rating factors, three were statistically significant (38%), and the values of the significant coefficients ranged from -.28 to .39. Finally, the summary index of behavior did not correlate significantly with any of the three summary rating indices. The highest correlation was .25.

Table 17

Loadings on the First Principal Component for Seven Situational Measures of Altruism (N=41)

Situational measure	Factor loading
Contributing Prizes - A	58
Contributing Prizes - B	08
Doing Problems	50
Cutting Out Pictures	48
Dividing Chips	63
Selecting Joint Rewards - 1	65
Selecting Joint Rewards - 2	66

Note. Decimals have been eliminated.

Table 18

Correlations between a Summary Situational Index of Altruism and Rating Indices, Rating Factors, and a Summary Rating Index of Altruism (N=41)

	Rating index									
	Works well with others	Competes	Comforts Reassures	Helps others having difficulty	Will not help others	Advises Interprets	Protects Defends	Helps others in distress	Gives gifts	Shares
Summary[a] situational index	30*	-18	27*	23	-47***	24	-07	14	-10	-16
	17	16	31*	17	-26	30*	10	26	-01	05
	27*	00	36**	24	-43**	32*	02	24	-08	-07

	Rating factor								
	Peers			Teachers		Combined		
	General Altruism	Face-to-face Giving	Competing Dominating	General Altruism	Asserting Leading	General Altruism	Face-to-face Giving	Competing Not Helping
Summary situational index	34*	-22	-28*	15	21	39**	-22	-15

	Summary rating index		
	Peers	Teachers	Combined
Summary situational index	20	23	25

Note. Decimals have been eliminated.

[a]Correlations with peer ratings are given on the first line; those with teacher ratings on the second line; and those with combined ratings on the third line.

* $p < .05$.
** $p < .01$.
*** $p < .001$.

Relationships Between Situational Measures of Altruism and Demographic and Personality Characteristics

The final issue investigated was the relationship between overt altruistic behavior and assorted demographic and personality characteristics. The demographic variables included sex, grade, occupational status of head of the household classified according to Hollingshead's seven-level scheme (Hollingshead, 1957; Hollingshead & Redlich, 1958), and ethnicity (Caucasian/other, Japanese/other, Chinese/other, Hawaiian/other, Filipino/other). The personality characteristics were scores on the Children's Social Desirability Scale (Crandall, Crandall, & Katkovsky, 1965) and an index of academic achievement derived from the child's performance on English, mathematics, and science problems done in the third situational measure (Doing Problems).

The correlations were computed between each of these variables and altruistic behavior scored at three levels of abstractness—individual situational measures, situational factors, and a summary situational index. Analyses were performed only for those 41 children who had complete data on all seven situational measures. Because of the generally small number of research participants and the unequal and very small number of individuals in certain classifications, higher-order analyses (such as grade-by-sex-by-ability) were not undertaken. In view of that limitation, the reader is strongly cautioned against arriving at definite conclusions about relationships between specific demographic or personality characteristics and altruistic behavior. Any two-variable relationships reported here may be primarily due to uninvestigated inequalities between the variables in one or more of the other variables.

The correlations between each of the demographic and personality variables and performance in the seven situational measures of altruism are presented in Table 19. Those data reveal that although a number of statistically significant correlations were obtained, some of which were even of moderate magnitude, the size of the correlations varied dramatically as a function of the situation. Thus the relationship between "altruism" and other characteristics of the individual depended upon the particular situational measure employed as an index of the construct. Moreover, inspection of the correlations in terms of more specific sub-dimensions--"Donating" (Contributing Prizes-A, Doing Problems, Cutting Out Pictures) or "Sharing" (Dividing Chips, Selecting Joint Rewards-1, Selecting Joint Rewards-2)--does not alter that conclusion. In no case were the relationships for all of the situational measures of one of these sub-constructs statistically significant. At this specific level, therefore, different conclusions emerge depending on the particular behavioral measure used.

The general pattern of relationships in Table 19, however, was consistent for many of the variables. For the variable of sex, there was a tendency (five out of seven situations) for girls to behave slightly more altruistically than boys, although that was not the case for the specific task of Contributing Prizes. There was a very consistent tendency (seven out of seven situations) for older children to behave more altruistically than younger children. However, the difference was most pronounced on tasks requiring the child to give up material goods; on Cutting Out Pictures, which involved doing work that required no special skills, the correlation was .01. Socioeconomic status, as indexed by occupation of the head of the household, also exhibited a very consistent trend (seven out of seven cases).

Table 19

Correlations between Seven Situational Measures of Altruism and Demographic and Personality Chracteristics (N=41)

Variable	Situational measure: Contributing Prizes A	Contributing Prizes B	Doing Problems	Cutting Out Pictures	Dividing Chips	Selecting Joint Rewards 1	Selecting Joint Rewards 2
Sex[a]	07	17	-30*	-27*	-10	-21	-19
Grade	48***	18	13	01	25	15	13
Occupational status of head of household (N=39)[b]	-30*	-14	-10	-18	-05	-21	-46**
Ethnicity[a]							
Caucasian/other	23	-10	-10	22	-45**	-12	01
Japanese/other	10	06	44**	-03	26	05	20
Chinese/other	-03	-05	-11	06	12	-01	03
Hawaiian/other	-41**	-13	-18	-06	19	07	-06
Filipino/other	-07	22	-25	-15	-04	10	-29*
Children's social desirability scale score (N=36)	-54***	-01	-48***	-22	-22	-03	00
Score on achievement items	38**	57***	08	-02	21	16	13

Note. Decimals have been omitted.

[a] Female=1; male=2.

[b] Lower values=higher socioeconomic status

[c] For each dichotomous comparison, the ethnic group listed (e.g., "Caucasian") was coded "1," and the remaining research participants (i.e., "other") were coded "0."

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Those of higher socioeconomic status regularly behaved slightly more altruistically than those of lower socioeconomic status. With regard to ethnicity, only two comparisions deserved consideration--Caucasian/other and Japanese/other--due to the extremely small number of individuals in the other ethnic groups. The Caucasian children did not exhibit any consistent trend, relative to the other ethnic groups. The Japanese children, on the other hand, tended to behave more altruistically (six out of seven situations) than the other participants.

Presentation of a favorable picture of oneself on a structured paper-and-pencil inventory, as indexed by score on the Children's Social Desirability Scale, exhibited a consistent negative correlation with altruistic behavior (six out of seven situations). Those children who portrayed themselves in a favorable light tended to behave less altruistically than children who portrayed themselves more accurately. The relationship was strongest (r = -.54, -.48) for the two tasks that involved donating anonymously in private to a recipient that was not physically present (Contributing Prizes-A, Doing Problems). It was weaker (r = -.22) when the action was performed in public where other children might note the individual's behavior (Cutting Out Pictures). The relationship was also weaker (r = -.22) in the situation where the recipient was physically present, but sharing was largely anonymous (Dividing Chips). Finally, the association was absent (r = -.03, .00) in the two tasks where the recipient was present and sharing was likely to be known to the recipient (Selecting Joint Rewards-1 and -2). Thus the magnitude of the correlation varied as a function of the visibility of the act and, possibly, the saliency of the recipient.

Altruistic behavior also tended to relate consistently (six out of seven tasks) to general scholastic ability (as indexed by the child's performance on five English, four science, and four mathematics items done during the first part of the third situational task). Of course, due to the small number of items and the conditions under which the questions were answered, the index of scholastic ability should be considered a very crude measure.

The correlations between more abstract indices of altruistic behavior--rotated principal component factors for the situational measures and a summary situational index--and the demographic and personality characteristics are presented in Table 20. The relationships should not be surprising in view of the correlations reported in Table 19. However, it is important to note that due to the consistency of the underlying relationships, six out of seven demographic and personality characteristics (excluding the three ethnic comparisons involving too few children) exhibited statistically significant correlations with the summary index of altruistic behavior. The coefficients were of low to moderate magnitude (r = -.28 to -.43). Therefore, although relationships of quite variable magnitude emerged for specific situational measures, statistically significant correlations were obtained for the summary index of behavior.

Table 20

Correlations of Three Behavioral Factors and One Summary Behavioral Index of Altruism with Demographic and Personality Characteristics (N=41)

	Behavioral factors			
Variable	I Sharing	II Donating	III Contributing Prizes-B	Summary Behavioral Index
Sex[a]	-20	-22	23	-28*
Grade	20	24	31*	33*
Occupational status of head of household (N=39)[b]	-31*	-22	-06	-37*
Ethnicity[c]				
Caucasian/other	-19	13	-19	-06
Japanese/other	17	22	11	29*
Chinese/other	06	-03	04	02
Hawaiian/other	08	-26*	-13	-13
Filipino/other	-09	-22	23	-20
Children's social desirability scale score (N=36)	-06	-53***	-18	-43**
Score on achievement items	18	15	56***	26*

Note. Decimals have been eliminated.

[a]Female=1; male=2.

[b]Lower values=higher socioeconomic status.

[c]For every dichotomous comparison, the ethnic group listed (e.g., "Caucasian") was coded "1," and the remaining research participants (i.e., "other") were coded "0."

* $p < .05$.
** $p < .01$.
*** $p < .001$.

Discussion

The findings of the present study concerned four issues: (a) the nature and utility of six contrived situational measures of altruism; (b) the cross-situational consistency and dimensionality of altruistic behavior; (c) the relationships between altruistic behavior and ratings, each scored at three levels of abstractness or globalness; and (d) the relationships between altruistic behavior, considered at three levels of abstractness, and demographic and personality variables. Each of these issues will be discussed in turn.

Nature and Utility of Situational Measures

Although a great deal more information needs to be gathered, the data from the present study indicate that the six contrived situational measures should be useful for investigation of altruistic behavior in fourth- to sixth- grade children. Individually, each measure elicited adequate inter-subject variance, and, together, the measures covered a variety of altruistic actions. As such, the contrived situations should be helpful for evaluation of treatment outcomes or assessment of individual differences in the domain of altruism.

Despite the general promise of the measures, however, several problems remain. In the first place, although the six situations covered a range of altruistic behaviors, several important areas were not assessed. To provide a more balanced picture of a child's altruistic tendencies, it would be necessary to measure, at the very least, willingness to provide advice and interpretation for those who are confused, to protect or rescue those in danger, and to provide sympathy or expressions of concern for those in distress. In addition, to investigate more fully the disposition of altruism, it would be necessary to have finer graduations in the characteristics of

altruistic situations. For instance, to disentangle the importance of degree of prior contact with the recipient from "saliency" or physical proximity of the recipient, the two would have to be systematically varied over several levels.

Second, several measures had weaknesses that perhaps could be eliminated. First, for the situational measure, Doing Problems, children tended to pile up around the score of three. That effect probably resulted from telling the research participants that the poor children would be given a prize for every three sheets contributed. The pile-up could therefore probably be eliminated by changing the instructions to read one prize for every sheet donated. Second, the task, Cutting Out Pictures, appeared to have an undesirable competitive quality to it, due no doubt to the group setting and the highly timed conditions. The measure might produce a less contaminated index of altruistic behavior if it were administered individually, with more liberal time limits. That would be much more expensive, of course, and would presumably also make the measure more like Doing Problems. The competitiveness of the situation might be reduced without loss, however, by dropping the sixth task in which the five fastest children received prizes. That part of the measure would have increased the competitiveness of the task to the extent that children in the class tested first communicated this part of the procedure to those tested second. In any event, the sixth task appears to be unnecessary. Finally, although Selecting Joint Rewards appeared to function adequately, it ould probably be made a more reliable index by increasing to five the number of partners for each child. The same arrangement used in Dividing Chips could be used to move the participants from partner to partner in an efficient fashion. The

entire task could still be finished in an hour, inasmuch as the 16 choices take only a few minutes to complete.

A third problem was the potential reactivity of the measures, taken individually or collectively. Considered separately, any measure could have by itself created an artificial environment and atypical behavior. That could have occurred through conscious distortion, as say, from guessing the true purpose of the task, or through less purposeful distortion, as from adopting a special role associated with being a research participant. Taken collectively, the possibility of reactive measurement was even greater. The sheer number of measures increased the likelihood that children would guess the true purpose of the tasks. At a more subtle level, earlier measures could have differentially sensitized participants to altruistic conduct or differentially decreased their willingness to behave altruistically.

The lack of relationship between Contributing Prizes (Form B) and the other situational measures appears to be best explained in terms of the latter type of reactivity. The measure was highly similar to Contributing Prizes (Form A)--even to the point of requesting donations to the same "children at another school who won't have a chance to get any prizes"--and was administered within several days of the other form. Children who had donated in the first situation, therefore, may not have felt much need to donate in the second task--after all, they had already given. Those who had not donated on the first occasion, on the other hand, might reasonably have felt more pressure to donate on the second occasion. That possibility was all the more likely considering that each participant returned to class with his or her non-donated prizes, thereby producing an opportunity for others to find out the number of prizes donated.

These apparent effects of Form A on Form B could have been avoided, perhaps, simply by administering Form B substantially later in time and by changing the recipients from "children at another school" to, say, "hospitalized children in need of things to cheer them up." Even had that been done, however, the eventual possible visibility of the otherwise anonymous and private act of donating was potentially reactive within either Form A or Form B. Since children were tested sequentially, those tested later may have been reacting to the number of prizes displayed by those tested earlier. In addition, those tested later may have been anticipating the subsequent reactions of classmates to the number of prizes that they, themselves, would later bring back from the situation. This effect could have attenuated the relationship between either form of Contributing Prizes and the remaining measures.

The potential reactivity of the other situational measures also remains problematical. Although the substantial non-altruistic or low altruistic behavior elicited by each measure is a strong argument against an invalidating degree of reactivity for the majority of children, it nevertheless may have been operating for particular individuals. Had time and resources allowed, the issue could have been investigated at the end of the project by questioning the participants about their interpretation of individual measures and the study as a whole. Even better, performance in the contrived situations could have been compared with unobtrusive observation of behavior in the natural environment. Unfortunately, neither approach could be pursued, and therefore the degree of reactivity or unnaturalness evoked by the measures remains unknown.

Cross-situational Consistency and Dimensionality of Altruistic Behavior

The intercorrelations among the various situational performances revealed that altruistic behavior was no more cross-situationally consistent for the majority of children than resistance to temptation or other personality characteristics have been found to be for diverse samples of children and adults (Barbu, 1951; Grim, Kohlberg, & White, 1968; Hartshorne & May, 1928; Hetherington & Feldman, 1969; Mischel, 1968; Sears, Rau, & Alpert, 1965; Nelson, Grinder, & Mutterer, 1969). The average intercorrelation among the six different situational measures (eliminating the second administration of Selecting Joint Rewards) was .15 for the 41 children with complete data on all measures and .21 for the same sample when the reactive index, Contributing Prizes-B, was eliminated (see Table 5). For the two clusters of related measures, "Donating" (Contributing Prizes-A, Doing Problems, and Cutting Out Problems) and "Sharing" (Dividing Chips versus Selecting Joint Rewards), the average intercorrelations were .41 and .37, respectively. By way of comparison, in studies of resistance to temptation, the average intercorrelation among different situational measures has been found to be .20 for seven major types of measures used with third- to twelfth-grade children (Hartshorne & May, 1928), .46 for nine overt measures given to 14-year-old Rumanian boys (Barbu, 1951), .25 to .26 for five measures administered to four-year-olds (Sears, Rau, & Alpert, 1965), .53 for three measures given to sixth graders (Grim, Kohlberg, & White, 1968), and .21 for six measures used with sixth graders (Nelson, Grinder, & Mutterer, 1969).

Some insights can be gained into the features of the situations of apparent importance to many research participants through inspection of the correlations among the measures (Table 5) in connection with the major

stimulus differences between them (Table 1). In considering the correlations, relationships with Contributing Prizes (Form B) are not included, due to the apparently reactive nature of scores from that situation. The relationships reveal, first of all, that the distinctions between type of contribution (goods versus work) and type of setting (contributing in private versus in public) were not of general importance. Second, anonymity of the act (source of contribution identified versus not identified) and possibility of direct self-gain also did not appear to influence behavior in general, although that conclusion rests on the assumption that children perceived the act of dividing chips as anonymous and lacking in possibilities for self-gain. The task was indeed designed to operate in that fashion, but some children may have intentionally tried to communicate the nature of their division to their partners or they may have felt that their partners could somehow tell how many chips were being given to them. In any event, the final two features along which the situations differed--degree of prior contact with the recipient (stranger versus classmate) and "saliency" of the recipient (physically distant or physically present during the contribution)--did seem to affect the behavior of a number of children. The three measures that involved giving goods to physically absent strangers or doing work to benefit them (Contributing Prizes-A, Doing Problems, and Cutting Out Pictures) were reacted to differently than the two situations that involved giving goods to a physically present classmate (Dividing Chips and Selecting Joint Rewards).

If the present findings are generalizable, therefore, it would appear that one of the properties of altruistic situations of importance to a number of fourth- to sixth-grade children is whether the recipient of an

altruistic act is physically present and/or whether he or she is an acquaintance or stranger. This is particularly interesting if the children truly regarded dividing chips as being anonymous, because in that case the different situations would not divide in terms of simple presence versus absence of opportunity for direct gain. Regardless of the outcome of that issue, however, the findings are useful because of what they indicate about facets of the situations that were not important to many children. Of course, it must still be borne in mind that these conclusions are about children in general; the pattern of relationships across situations was sufficiently weak, even within the two clusters, to make it clear that individual children were reacting to other cues--internal and/or external--as well.

Relationships Between Ratings and Overt Situational Measures of Altruism

Ratings of others, like self-descriptions, have often been used as cheap substitutes for direct assessment of overt actions. Unfortunately, however, when relationships between ratings and actual overt behavior have been investigated, the correspondence has invariably been quite low (Mischel, 1968). A variety of explanations for this finding have been offered, many of which have to do with inadequacies in specific rating techniques or problems with lay raters, such as lack of technical training, basic observational skills, and willingness. These factors certainly should lower the validity and reliability of ratings and, hence, their ability to correlate with overt behavior. However, another factor may have contributed substantially to the low relationships: studies of the correspondence between ratings and overt behavior have invariably compared global trait ratings with specific overt behaviors. Obviously this involves comparison of things measured at different levels of abstractness, but the practice has persisted partly because of the

difficulty in obtaining multiple behavioral measures and partly because of the assumption that specific overt behavior should provide an adequate index of a global disposition. However, if it is assumed that acts of overt behavior are usually determined by multiple internal and external forces--which seems to fit well the pattern of correlations between situational measures obtained in the present study--it becomes clear that ratings of global dispositions can not possibly correlate highly with specific situational behaviors. Each such behavior is simply influenced by too many variables and therefore, at best, provides only a very weak index of any global disposition. Furthermore, this would be the case regardless of the technical excellence of the ratings; indeed, it would occur even if the global index were itself constructed from an averaging of multiple overt behaviors.

This explanation of the low relationships between ratings and overt behavior was investigated empirically in the present study by systematically varying the globalness or abstractness of rating indices of altruism in relation to the globalness of behavioral indices. Three levels of each were employed, ranging from specific or moderately specific items, through rotated principal component factors, to a summary situational index. When crossed one with the other, nine sets of intercorrelations were produced. The results of these analyses revealed that the magnitude of the relationships between ratings and overt behavior did, in fact, vary as a function of the level at which each was represented (see Tables 8, 11, 13, 14, 15, 16, and 18). The highest correlations were generally obtained when ratings, as well as overt behavior, were considered at an intermediate level—at the level of principal component factors. At that level, both the percentage of

significant correlations and the magnitude of the correlations were highest, and several coefficients in the .40s and .50s were obtained. Several correlations of moderate magnitude were also obtained between moderately specific rating indices and specific situational performances. But, when ratings were considered at the most global level, the magnitude of the correlations and the number of significant correlations decreased substantially, regardless of the level at which overt behavior was considered. The pattern of correlations between the summary rating index and the specific situational performances was similar to that generally reported in the research literature (Mischel, 1968). Relationships were weakest of all when ratings and behavior were both considered at their most global level.

The present findings appear to stem from the simple fact that the correlation between an index and a criterion will increase as items that have similar correlations with the criterion are added to the index. For ratings and overt behaviors, addition of a few items tended to produce a more reliable index of a fairly specific entity whose component items had a high probability of relating consistently to external criteria. The probability of higher correlations therefore increased. On the other hand, as more items were added together to form the summary index, too many competing sources of variance were eventually combined--the probability was increased that items with opposing correlations with criteria would be added together. Lower correlations therefore resulted from the canceling effects of the items. Furthermore, the likelihood of opposing correlations was probably particularly high for ratings, because they covered a much broader spectrum than the situational measures and they also began at a more global level. At the level of moderately specific items or principal component factors,

however, the various sources of variance were more likely to be separate and therefore would not cancel each other.

In conclusion, the present findings indicate that higher levels of association may be obtained between overt behavior and ratings, when each is represented at the proper level of abstraction. Nevertheless, the general level and pattern of correlations did not indicate that ratings should be considered as accurate indices of overt behavior. Stronger relationships might have been obtained, of course, if greater attention had been given to the methodological pitfalls characteristic of ratings. The present procedures were intended as a step in that direction, but they unquestionably could have been greatly improved. In particular, the ratings could have been made more explicit behaviorally and more specific in terms of situational characteristics. Had these and other improvements been made, the ratings might perhaps have correlated higher and more consistently with actions, but this has not been established.

Relationships Between Situational Measures of Altruism and Demographic and Personality Characteristics

It is standard practice in research on personality and social functioning to infer the degree of some disposition from the individual's performance in a single situation. Such inferred dispositions are then typically studied in relation to other characteristics of the individual, such as demographic variables or other personality characteristics. The findings of the present study, however, make abundantly clear the exceptional dangers of such practices: different situational indices of the same global construct or sub-construct do not intercorrelate highly, nor do they exhibit a consistent pattern of relationships with other variables.

Thus, as demonstrated by the present findings (see Table 19), different conclusions will be reached regarding the relationship between a particular demographic or personality characteristic and an individual's "altruistic" tendencies depending on which situational index is used. That fact probably arises, as argued earlier, because behavior in each situation is determined by a multitude of factors, and performance is therefore only weakly--if at all--representative of some hypothesized disposition. A variable pattern of correlations will therefore generally be obtained even if more specific sub-constructs of altruism are used. Nevertheless, when multiple behavioral measures of a disposition are employed and performance is summed or averaged over these measures, a significant relationship may emerge to the extent that a weak, but consistent, tendency exists for the individual measures (see Table 20). Such relationships may be of scientific interest, even though they are most definitely not predictive of behavior in specific situations. If researchers are interested in investigating such dispositions by means of overt performance in contrived situations or behavior in the natural environment, they must accept the specificity or multidetermined nature of behavior. If they want to obtain generalizable findings, they must accept the need for multiple assessments.

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APPENDIX A

CONTRIBUTING PRIZES (FORM A)

Contributing Prizes-A

Description

Children are tested individually in a separate room. The ostensible purpose of the child's participation is to provide information on reward preferences for children of his or her age group. To that end, each child is asked to select one object that he likes best from among a variety of attractive prizes valued at approximately ten cents apiece (e.g., stickers, dimes, candy bars, chewing gum, football and baseball cards, party favors). When the child has made his selection, he is allowed to keep the object he selected and, in addition, is given two more just like it. These are placed in a brown paper bag to conceal whether or not the child subsequently donates one or more of the objects. He is then asked to fill out in private a brief questionnaire dealing with how much he likes the object he selected. Just prior to leaving the child alone to complete the questionnaire, the test administrator points to a donation container which is for "children at another school who won't have a chance to earn any prizes." The child is told that he may want to donate one or more of his prizes for this purpose, although it is not necessary. The child is then left alone to fill out the questionnaire and, if he wishes, to donate to the other children. The donation score is the number of prizes contributed by the child. The entire session takes no more than 10 minutes per child.

Materials and Apparatus

Rewards. There should be three each of a number of small reward

objects, valued at around ten cents apiece. Objects used in developing the measure included:

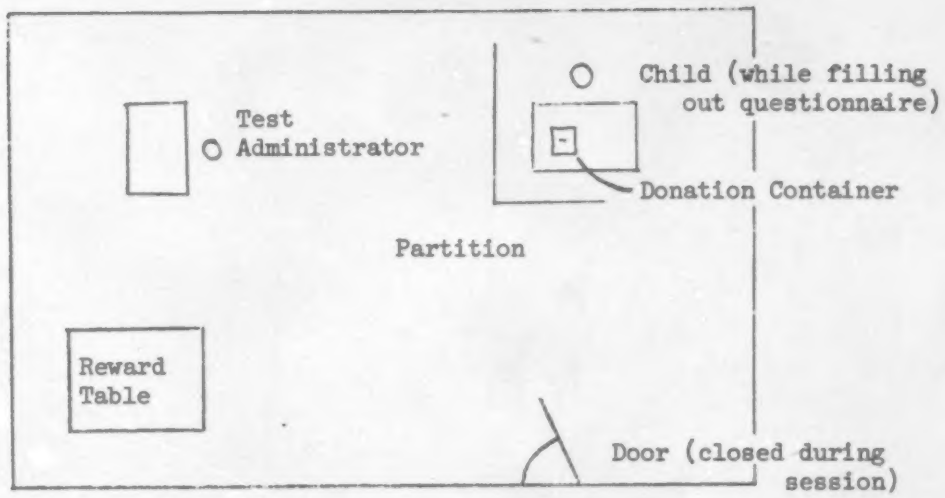
1. Stickers (decals) of various types, divided into units worth ten cents each, including such things as bunnies, panda bears, local university athletic slogans and names;
2. dimes (or 10 pennies or 2 nickels);
3. candy bars;
4. packages of chewing gum;
5. football and baseball cards;
6. erasers;
7. party favors and tiny games of various kinds.

Paper bags. You will need a small (lunch-size) paper bag for each child to be tested. The rewards selected by the child will be placed in this bag during the task.

Donation container. The donation container can be made out of any material, although a small box is particularly suitable. The one used in the development study was 12" x 12" x 6". A hole large enough for donation objects to drop through easily should be cut in the top. A poster beside the container should state: "Things For Children Who Won't Have a Chance to Earn Prizes." Seven assorted reward objects should be placed in the donation container and their names recorded on the accompanying Donation Container List.

Room arrangement. Any arrangement of the experimental room is acceptable as long as the child is not within view of the test administrator while the child is filling out the questionnaire and deciding

whether to donate. The arrangement of the room used during test development is illustrated below.



Instructions

Examiner. Before you begin, prepare the Record Form for this task (Three Identical Prizes [CP-A]). Fill in: (1) the date; (2) your name; (3) the teacher's name for the classroom that the children are from; and (4) the order of administration of the present task in the total battery of tests ("Task Number"), if the present task is one of several being given to the same children. Then, using a table of random numbers, randomly assign the order in which the children will be tested. Write the children's names in the proper order on the Record Form.

When you are ready, go to the first child's classroom and bring him or her to the testing room (or arrange for the child to come to the room at a prescribed time). When the child is in the room, begin as follows.

Say to the Child. "We are interested in finding out about the small things that boys and girls your age like. Over here" (take the child to the reward table), "are some things that someone your age might like to have as prizes or rewards for doing something."

"What I would like you to do is look over the things and choose the one you like best. When you have made your choice, bring what you have chosen over to me at my desk." (Point to the desk where you will be sitting.) "Please choose carefully because I am going to let you keep what you choose as a reward for helping me. OK? Go ahead."

Examiner. Return to your desk and remain busy with some work while the child makes his selection. If the child has not made a selection after five minutes, ask him if he is having difficulty. Try to get him to make his selection, but do not in any way suggest particular choices.

When the child has made his selection and brought it to you, continue.

Say to the Child. "OK, fine. Thank you. Now, I'm going to let you have this for helping me. In fact, I'm going to give you two more just like it for helping me."

Examiner. Take the child to the reward table and select two more objects of the same kind. Pick up one of the paper bags, and place the three objects in the paper bag. Hand the bag to the child.

Say to the Child. "OK, here you are. Now, please keep your things in this paper bag, and do not use them until recess. All right? Now, I want you to do one more thing for me before you go back to class."

Examiner. Take the child over to the table where he can sit down out of sight of you (when you are at your desk) or anyone else, including other children.

Say to the Child. "I want you to tell me how well you like what you have chosen. Here are some questions I would like you to answer about your choice." (Give the child the Reward Preference Questionnaire.) "When you have finished answering the questions, bring this sheet over to my desk. OK?" (Pause.)

"Oh, by the way, before you leave you might want to put one or more of the things in your bag in this container." (Point to the donation container.) "It's for children at another school who won't have a chance to get any prizes. You don't have to give any of your things if you don't want to, but I am sure that children at the other school would like to have some prizes too."

"Well anyway, when you are done, come over to my desk. OK?"

Examiner. Return to your desk and remain busy with some work. The child should take no more than five minutes to answer the questionnaire. But do NOT try to hurry him. Remain at your desk until he finishes.

When the child finishes the questionnaire and brings it to you, continue

Say to the Child. "OK, thank you very much for your help. Please do not use your prizes until recess."

"You can go back to your class now. Thank you."

Examiner. When the child leaves, go quickly to the Donation Container and note whether the child donated anything. To avoid later confusion, immediately remove from the Donation Container any objects donated by the child, so that only the original seven objects remain. Place any removed objects out of sight in a separate place, where none of the children will see them. Immediately record the number of objects donated (0,1,2,3) on the Record Form under the heading "Number of Objects."

CP-A

RECORD FORM

Date: _____

Name of Examiner: _____

Teacher's Name: _____

Task Number (if other tasks are used): _____

Order of Administration	Name (and/or Identification Number)	Number of Objects
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		
21.		
22.		
23.		
24.		
25.		
26.		
27.		
28.		
29.		
30.		
31.		
32.		
33.		
34.		
35.		

CP-A

REWARD PREFERENCE QUESTIONNAIRE

1. Your Name _____

2. Your Grade _____

3. Your Age _____

4. Your Sex Boy ☐ Girl ☐

5. What Object did you choose?

6. How much do you like what you chose?
(Check the appropriate box)

☐	☐	☐	☐
Like Very Much	Like Pretty Much	Like A Little	Like Not At All

7. How much do you think other children your age would like what you chose?

☐	☐	☐	☐
Like Very Much	Like Pretty Much	Like A Little	Like Not At All

8. You were given 3 of the things you chose. Do you feel that 3 is too many of this kind of thing?

☐	☐	☐	☐	☐
Definitely NO	NO	Don't Know	YES	Definitely YES

9. Is there something of similar cost that you did NOT see on the table that you would like even better?

☐ NO ☐ YES

10. If your answer to the previous question was YES, please name what you would like better.

_____

_____

Thank you for your help. Please return this to the adult monitor now.

CP-A

DONATION CONTAINER LIST

Description of Object

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

APPENDIX B

CONTRIBUTING PRIZES (FORM B)

Contributing Prizes-B

Description

Children are tested individually in a separate room. The ostensible purpose of the child's participation is to provide information on reward preferences for children of his or her age group. To that end, each child is asked to select three objects that he likes best from among a variety of attractive prizes valued at approximately ten cents apiece (e.g., stickers, dimes, candy, chewing gum, party favors). When the child has made his selection, he is allowed to keep the objects he chose. These are placed in a brown paper bag to conceal whether or not the child subsequently donates one or more of the objects. He is then asked to fill out in private a brief questionnaire dealing with how much he likes the objects he selected. Just prior to leaving the child alone to complete the questionnaire, the test administrator points to a donation container which is for "children at another school who won't have a chance to earn any prizes." The child is told that he may want to donate one or more of his prizes for this purpose, although he doesn't have to do so. The child is then left alone to fill out the questionnaire and, if he wishes, to donate to the other children. The donation score is the number of prizes contributed by the child. The entire session takes no more than 10 minutes per child.

Materials and Apparatus

Rewards. There should be a number of small reward objects, valued

at around ten cents apiece. Objects used during test development included:

1. Stickers (decals) of various types, divided into units worth ten cents each, including such things as bunnies, panda bears, local university athletic slogans and names;
2. dimes (or 10 pennies or 2 nickels);
3. candy bars;
4. packages of chewing gum;
5. football and baseball cards;
6. erasers;
7. party favors and games of various kinds.

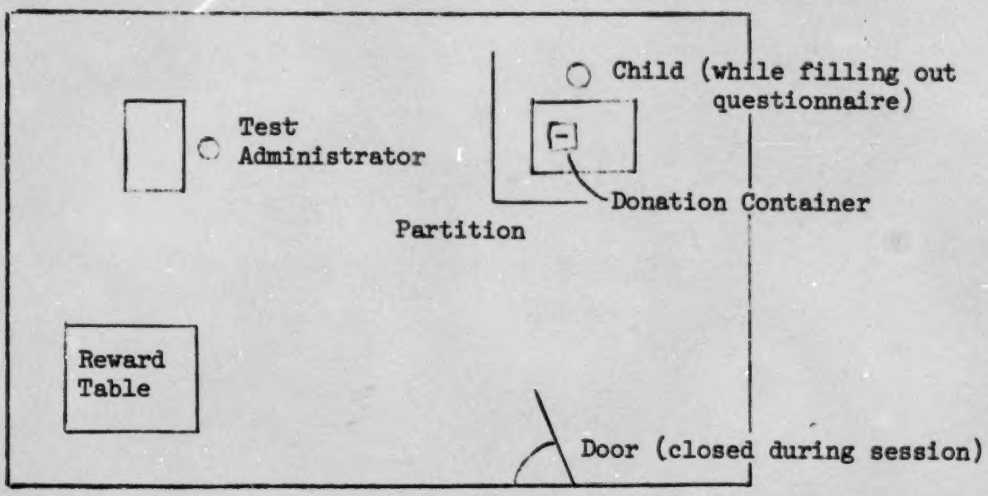
Each object may be wrapped individually and a label attached to the back of the object giving its name to make it easier for the child to fill in the Reward Preference Questionnaire described below. If desired, the labels may be color-coded so that each identical object is given a different colored label. These colors, along with the object's name, may then be used to determine whether specific children donated the object.

Paper bags. You will need a small (lunch-size) paper bag for each child to be tested. The rewards selected by the child will be placed in this bag during the task.

Donation container. The donation container can be made out of any material, although a small box is particularly suitable. The one used in the development of the measure was 12" x 12" x 6". A hole large enough for donation objects to drop through easily should be cut in the

top. A poster beside the container should state: "Things for Children Who Won't Have a Chance to Earn Prizes." Place seven assorted reward objects in the donation container and record their names on the accompanying Donation Container List.

Room arrangement. Any arrangement of the experimental room is acceptable as long as the child is not within view of the test administrator while the child is filling out the questionnaire and deciding whether to donate. The arrangement of the room used during test development is illustrated below.



Instructions

Examiner. Before you begin, prepare the Record Form for this task. Fill in: (1) the date; (2) your name; (3) the teacher's name for the classroom that the children are from; and (4) the order of administration of the present task in the total battery of tests (Task Number), if the present task is one of several being given to the same children. Then, using a table of random numbers, randomly assign the order in which the children will be tested. Write the children's names in the proper order on the Record Form.

When you are ready, go to the first child's classroom and bring him or her to the testing room (or arrange for the child to come to the room at a prescribed time). When the child is in the room, begin as follows.

Say to the child. "We are interested in finding out about the small things that boys and girls your age like. Over here" (take the child to the reward table), "are some things that someone your age might like to have as prizes or rewards for doing something."

"What I would like you to do is look over the things on the table and then choose the three different things that you like best. When you have made your choice, bring the three things to me at my desk." (Point to the desk where you will be sitting.) "Please choose carefully because I am going to let you keep what you choose as a reward for helping us. OK? Go ahead."

Examiner. Return to your desk and remain busy with some work while the child makes his selection. If the child has not made his selection afer five minutes, ask him if he is having difficulty. Try to

get him to make his selections, but do not in any way suggest particular choices.

When the child has made his selections and brought them to you, continue.

Say to the child. "OK, fine. Thank you. Now, I'm going to let you keep these for helping me. You've chosen _____." (Give the names of the objects selected by the child so that he will know them later when filling out the questionnaire.)

Examiner. Pick up one of the paper bags, and place the three objects in the paper bag. Hand the bag to the child.

Say to the child. "OK, here you are. Now, please keep your things in this paper bag, and do not use them until recess. All right? Now, I want you to do one more thing for me before you go back to class."

Examiner. Take the child over to the table where he can sit down out of sight of you (when you are at your desk) or anyone else, including other children.

Say to the child. "I want you to tell me how well you like what you have chosen. Here are some questions I would like you to answer regarding your choices." (Give the child the Reward Preference Questionnaire.) "When you have finished answering the questions, bring this sheet over to my desk. OK?"

Examiner. After you have answered any questions, continue as follows.

Say to the child. "Oh, by the way, before you leave you might want to put one or more of the things in your bag in this container." (Point to donation container.) "It's for children at another school who won't have a chance to get any prizes. You don't have to give any of your

things if you don't want to, but I am sure that children at the other school would like to have some prizes too."

"When you are done, come over to my desk with the sheet of paper. OK?"

Examiner. Return to your desk and remain busy with some work. The child should take no more than fives minutes to answer the questionnaire. But do NOT try to hurry him. Remain at your desk until he finishes.

When the child finishes the questionnaire and brings it to you, continue.

Say to the child. "OK, thank you very much for your help. Please do not use your prizes until recess."

"You can go back to your class now. Thank you."

Examiner. When the child leaves, go quickly to the Donation Container and note whether the child donated anything. To avoid later confusion, immediately remove from the Donation Container any objects donated by the child, so that only the original seven objects remain. Place any removed objects out of sight in a separate place, where none of the children will see them. Immediately record the names of the objects donated (0,1,2,3) on the Record Form under the heading "Number of Objects."

CP-B

RECORD FORM

Date: _____

Name of Examiner: _____

Teacher's Name: _____

Task Number (if other tasks are used): _____

Order of Administration	Name (and/or Identification Number)	Number of Objects
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		
21.		
22.		
23.		
24.		
25.		
26.		
27.		
28.		
29.		
30.		
31.		
32.		
33.		
34.		
35.		

CP-B

REWARD PREFERENCE QUESTIONNAIRE

1. Your Name _____
2. Your Grade _____
3. Your Age _____
4. Your Sex (check one) Boy ☐ Girl ☐
5. What things did you choose?
   A. _____
   B. _____
   C. _____
6. Which one do you like the most?

   _____

   How much do you like it? (check one)

☐	☐	☐	☐
Like Very Much	Like Pretty Much	Like A Little	Like Not At All

7. Which one do you like next most?

   _____

   How much do you like it? (check one)

☐	☐	☐	☐
Like Very Much	Like Pretty Much	Like A Little	Like Not At All

8. Which one do you like least?

   _____

   How much do you like it? (check one)

☐	☐	☐	☐
Like Very Much	Like Pretty Much	Like A Little	Like Not At All

Thank you for your help. Please return this to the adult monitor now.

CP-B

DONATION CONTAINER LIST

Description of Object

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

APPENDIX C

DOING PROBLEMS

Doing Problems

Description

Children are tested individually in a separate room. The ostensible purpose of the child's participation is to provide information on how well children his or her age can do a variety of math, science, and English achievement items. The examiner begins by showing the child some pages of problems. The first page deals with math, the second with science, the third with English, and the following pages repeat this sequence. The child is told that as a reward for doing three pages of problems he will be allowed to choose a prize from among a variety of attractive prizes valued at approximately ten cents each (e.g., candy, chewing gum, dimes, stickers, party favors).

Just prior to leaving the child alone to do the problems, the test administrator tells the child that if he wishes to do additional problems, some poor children will be given prizes too. For every three additional pages of problems that he or one of his classmates does, one prize will be donated to the poor children. The child is told to put any extra sheets of problems he does in the container marked "donations for the poor children."

The child's anonymity is preserved by not asking him to sign his name on any of the sheets of problems. However, unknown to the child, the number of sheets he does can be counted and his contributions to the poor children can therefore be identified following the test session. His donation score is the number of sheets of problems he does for the

poor children. The entire session takes about 15 minutes per child.

Materials and Apparatus

Rewards. A number of small prizes valued at approximately ten cents each should be placed on a table in the room where the child is to be tested. Objects used in the development study included:

1. Stickers (decals) of various types, divided into units worth ten cents each, including such things as bunnies, panda bears, local school athletic slogans and names;
2. dimes (or 10 pennies or 2 nickels);
3. candy bars;
4. packages of chewing gum;
5. football and baseball cards;
6. erasers;
7. party favors and tiny games of various kinds.

Containers to receive answer sheets. Two cardboard or wooden boxes should be used to receive the pages of problems as they are completed. The ones used in the development study were 8½" x 11" x 4". One container should be marked "Answer Sheets" and the other "Answer Sheets Donated for the Poor Children." Before the first child arrives, place ten completed pages of problems in the first container ("Answer Sheets") and five in the second ("Answer Sheets Donated for the Poor Children").

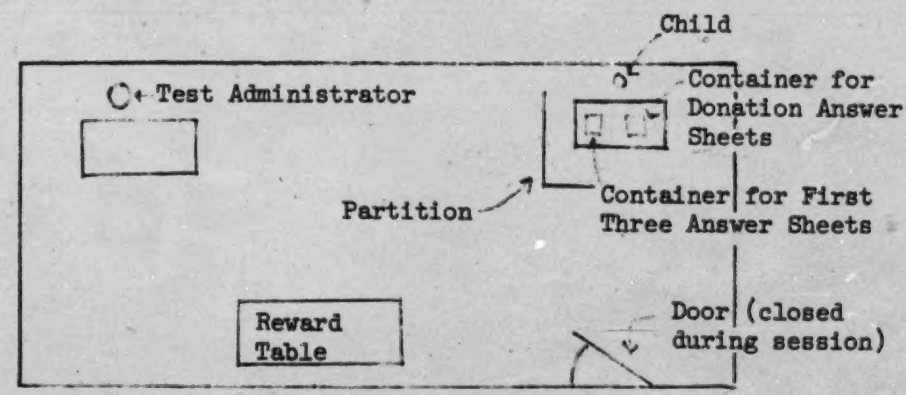
Mathematics, science, and English problems. There are nine pages of problems, three dealing with mathematics, three with science, and three with English (see the enclosed material). A quantity of each equal to the number of students to be tested, plus four, should be

duplicated (along with the fifteen sheets to be placed in the containers before the first child arrives). After the copies have been run off, they should be arranged in the order prescribed on the enclosed key ("Key for Proper Sequence of Problem Sheets"] in sets of nine pages. Do not place any visible sequence number or identification marks on the pages. When this has been done, there will be a set of nine sheets for each child and four sets of nine pages left. These four sets of problems are to be placed in turn beneath each student's set of nine pages. For example, the first student to be tested will be given five sets of nine pages--one set for him and four backing sets. After he has completed the session, the remaining problem sheets for him (of the original nine) should be removed from the stack of problems and replaced with a new set of nine sheets for the next child. As this is being done, it is possible to count the number of sheets not done by the child and, hence, to find out the number of sheets donated by him to the poor children. (Alternatively, if a more fool-proof procedure is desired, each child's name may be written on the back of his nine sheets using ultraviolet transfer paper [available from Ultra-Violet Products, Inc., 5114 Walnut Grove Avenue, San Gabriel, California 91778]. The child's name would be invisible under ordinary light, but could be read later using an ultraviolet light. This procedure was used during test development.)

As in the case of the first student, the second student also gets five sets of nine pages. This process is repeated for subsequent students. In order to expedite the removal of the problem sheets remaining from the previous student, the top sheet of the stack of four sets of nine sheets should be marked in some unobtrusive way so

that it can be easily identified by the test administrator.

Room arrangement. Any arrangement of the room is acceptable as long as the child is not within view of the test administrator while he is working on the test items. The arrangement used during development of the measure is illustrated below.



Instructions

Examiner. Before you begin, prepare the Record Form for this task. Fill in (1) the date; (2) your name; (3) the teacher's name for the classroom that the children are from; and (4) the order of administration of the present task in the total battery of tests ("Task Number"), if the present task is one of several being given to the same children. Then, using a table of random numbers, randomly assign the order in which the children will be tested. Write the children's names in the proper order on the Record Form.

When you are ready to start, go to the first child's classroom and bring him to the testing room, or arrange for the child to come to the room at a certain time. When the child is in the room, take him immediately to the area where he will be completing the test items. The test sheets for the child should already be in place on the desk where the child will work. Remember, these should consist of one set of nine pages for the child and four sets of nine pages as backing. When the child is at the desk where he will be working, pick up the set of test sheets and continue as follows.

Say to the child. "We are interested in finding out how well boys and girls your age can do some new achievement test problems" (wave the sheets in your hand). "The problems deal with three areas: English" (show the child the first sheet), "science" (show him the second sheet), "and mathematics" (show him the third sheet). "We are not interested in your score. We just want to find out in general how hard or easy these problems are for kids your age. All you have to do is try to

answer the questions to the best of your ability. If you can't do a problem, don't worry about it. Just go on to the next problem."

"Now, I want you to do the first three sheets for me." (Point to the three sheets.) "That's one sheet with English problems, one with science problems, and one with mathematics problems." (Turn each sheet as you say it.) "OK?" (Pause.) "As you finish each sheet, put it in this box face down." (Point to the container marked "Answer Sheets" and demonstrate putting the sheet into the box face down.) "Do you understand?" (If the child asks about the other container, tell him that you will explain what it is for in a minute.)

"When you have finished the three sheets, come over to my desk. To thank you for doing the three sheets, I will let you pick out one of the prizes on the table over there." (Point to the reward table.) "So whenever you're finished, you can have one of the prizes."

"One more thing. Some people have said that it would be nice if some of the poor children in the area could get some prizes too. So, if you want to, you can help the poor children by doing more problems in addition to the first three sheets. You don't have to do any more problems if you don't want to, but after we have finished testing, we will add up all the answer sheets done for the poor children. For each three additional sheets of problems, we will give them a prize."

"If you want to do any additional sheets of problems, put the sheets in this box." (Point to the container marked "Answer Sheets Donated for the Poor Children.")

"Now, where will you put the first three sheets for me?" (Wait for

the child's correct response.) "If you do more sheets for the poor children, where will you put them?" (Wait for the child's correct response.)

"OK, you go ahead and get started. If you have any questions, I'll be sitting over there." (Gesture in the direction of your desk.)

Examiner. If the child asks how many sheets he should do, or has to do, or some variant, or in some way asks for clarification, say the following:

Say to the child. "You don't have to do any extra sheets of problems for the Poor Children. I want you to do three sheets of problems for me. Put those in this box as you finish them." (Point to the box.) "When you have finished those three sheets, if you wish you may do any number of additional sheets that you want to help the Poor Children. Put those sheets in this box." (Point to the donation container.) "But you don't have to do any."

Examiner. Return to your desk. If the child has not finished in 15 minutes, tell him from your desk that he has one minute to finish up. After that mimute is up, if he has not come over to you, go over to his desk and tell him to stop working. In either case, continue as follows.

Say to the child. "OK, thanks very much for your help. You can go over and select your prize now."

Examiner. After the child has selected his prize, thank him and tell him that he can go back to class. Tell him not to play with his prize until recess.

After the child has gone, go over to the testing table and remove whatever test sheets remain for that child. Place the next child's set of nine sheets on top of the stack. Before the next child arrives, return to your desk. Quickly count the number of sheets not done by the child. Subtract this number from six to get the child's Helping score, which is simply the number of sheets done by the child for the poor children. Record this on the Record Form under "Number of Sheets."

DP

RECORD FORM

Date: _____

Name of Examiner: _____

Teacher's Name: _____

Task Number (if other tasks are used): _____

Order of Administration	Name (and/or Identification Number)	Number of Sheets
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
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21.		
22.		
23.		
24.		
25.		
26.		
27.		
28.		
29.		
30.		
31.		
32.		
33.		
34.		
35.		

DP

KEY FOR PROPER SEQUENCE

OF PROBLEM SHEETS

Order of Sheet	Stem of first item on sheet
1	He likes <u>everybody</u>.
2	What will happen if a dish of salt-water solution is left under the sun to dry up?
3	$7\overline{)63} =$ _____
4	We took all the clothes we <u>required</u>.
5	Which statement is false?
6	$25\overline{)3245} =$ _____
7	Every time it rained, John would run outside and play. John _____ played outside when it rained.
8	$6^2 =$ _____
9	Which of these is a mammal?

DP

ANSWER KEY

Test 1

1. A
2. B
3. D
4. B
5. A

Test 2

1. D
2. C
3. C
4. C

Test 3

1. A
2. D
3. C
4. A

Test 4

1. C
2. B
3. D
4. D
5. A

Test 5

1. D
2. B
3. B
4. D

Test 6

1. B
2. B
3. A
4. D

Test 7

1. D
2. C
3. E
4. B
5. A

Test 8

1. B
2. D
3. D
4. A

Test 9

1. C
2. B
3. A
4. C

DP

Read the phrases or sentences below. In each phrase or sentence one word is underlined. Find the word that means almost the SAME as the underlined word. Circle the correct answer.

EXAMPLE

Please help me.

(A) join
(B) feed
((C)) assist
(D) admire

Answer (C) has been circled.

1. He likes everybody.

(A) all people
(B) some people
(C) somebody
(D) no people

2. A welcome guest

(A) speaker
(B) visitor
(C) pupil
(D) singer

3. Does it pain you?

(A) amuse
(B) annoy
(C) cripple
(D) hurt

4. Be quick.

(A) bright
(B) fast
(C) sharp
(D) loud

5. Yell for help

(A) scream
(B) ask
(C) beg
(D) run

DP

Read the questions below. For each question, circle the correct answer.

1. What will happen if a dish of salt-water solution is left under the sun to dry up?

   (A) Most of the salt and water will evaporate from the dish.
   (B) Most of the salt and water will stay on the dish.
   (C) Most of the salt will evaporate from the dish.
   (D) Most of the water will evaporate and the salt will stay on the dish.

2. Alina found a spider in her garden. What can she do to find out what the spider usually eats in her garden?

   (A) Try to feed him.
   (B) Chase the spider away.
   (C) Watch the spider quietly.
   (D) Catch the spider.

3. Ruth saw a young plant growing between her tomato and pepper plants. How can Ruth quickly find out whether the young plant is a tomato plant or a pepper plant?

   (A) She could wait for the young plant to grow and bear fruit.
   (B) She could look for more young plants.
   (C) She could see if the leaves and stems of the young plant look like the older tomato and pepper plants.
   (D) She could pull out the young plant and take it to her father and ask him.

4. Which of these is not a way of observing?

   (A) tasting
   (B) smelling
   (C) sleeping
   (D) touching

DP

Read the problems below. For each problem, circle the correct answer. Use this page to do your scratch work.

1. $7\overline{)63}$ = _____

(A) 9
(B) 8
(C) 7
(D) 6

2. $5\overline{)6025}$ = _____

(A) 1005
(B) 125
(C) 1025
(D) 1205

3. $6\overline{)834}$ = _____

(A) 124
(B) 34
(C) 139
(D) 246

4. Divide 76 by 5. The remainder is _____

(A) 1
(B) 2
(C) 3
(D) 4

DP

Read the phrases or sentences below. In each phrase or sentence one word is underlined. Find the word that means almost the SAME as the underlined word. Circle the correct answer.

EXAMPLE

Please help me.

(A) join
(B) feed
(C) assist
(D) admire

Answer (C) has been circled.

1. We took all the clothes we required.

   (A) possessed
   (B) owned
   (C) needed
   (D) wanted

2. Completely done

   (A) almost
   (B) all
   (C) not
   (D) partly

3. Organize the papers

   (A) criticize
   (B) sell
   (C) build
   (D) arrange

4. A quiet night

   (A) dark
   (B) queer
   (C) beautiful
   (D) still

5. Bring together or collect

   (A) gather
   (B) announce
   (C) sort
   (D) connect

DP

Read the questions below. For each question, circle the correct answer.

1. Which statement is false?

   (A) Plants need water, sunlight, and minerals to make their food.
   (B) Plants store their food in their roots.
   (C) Some plants store some of their food in their stems.
   (D) Plants need only water and sunlight.

2. What causes night and day?

   (A) movement of the sun around the earth
   (B) turning of the earth
   (C) movement of the moon around the earth
   (D) rotation of the sun on its axis

3. How are insects different from mammals?

   (A) Insects move; mammals do not.
   (B) Insects are hatched; mammals are born alive.
   (C) Insects have fur; mammals have hair.
   (D) Insects have 2 legs; mammals have 6 legs.

4. What do living things need?

   (A) oxygen and water
   (B) food and air
   (C) food, water, and air
   (D) food, water, and oxygen

DP

Read the problems below. For each problem, circle the correct answer. Use this page to do your scratch work.

1. $25\overline{)3245}$ = _____

   (A) 130
   (B) 139 r20
   (C) 12 r?
   (D) 125 r20

2. 4 x 8 = _____

   (A) 4 + 8
   (B) 8 + 8 + 8 + 8
   (C) 8^4
   (D) $4 \times \frac{1}{8}$

3. 10 x 5 x 12 = _____

   (A) 600
   (B) 62
   (C) 27
   (D) 125

4. (5 x 3) + 6 = _____

   (A) 23
   (B) 90
   (C) 33
   (D) 21

DP

Read the sentences below and find the words to go in the blanks. Circle the correct answer.

EXAMPLE

That shirt is too large for Bill. It's made for _____ bigger boy.

(A) a
(B) an
(C) less
(D) more
(E) much

Answer (A) has been circled.

1. Every time it rained, John would run outside and play. John _____ played outside when it rained.

(A) often
(B) rarely
(C) sometimes
(D) always
(E) never

2. Mika talked and talked. When his father told Mika to stop talking, he did. Mika talked _____ his father told him to stop.

(A) when
(B) as
(C) until
(D) while
(E) although

3. Yesterday the wind _____ hard and many leaves fell.

(A) blow
(B) blows
(C) blowed
(D) blowing
(E) blew

4. Fred is five feet tall. The ceiling in his classroom is fifteen feet high. Fred is _____ to reach the ceiling.

(A) tall enough
(B) not tall enough
(C) too tall
(D) very short
(E) tall

5. The manager needs _____ capable men for the new project.

(A) some
(B) much
(C) none
(D) lots
(E) this

DP

Read the problems below. For each problem, circle the correct answer. Use this page to do your scratch work.

1. 6^2 = _____

   (A) 6 + 6
   (B) 6 - 6
   (C) 6 x 6
   (D) 6 ÷ 6

2. 3 x 3 x 3 x 3 = _____

   (A) 3 x 4
   (B) 3^4
   (C) 12
   (D) 27

3. Which number is between 17.5 and 17.6?

   (A) 17.55
   (B) 16.5
   (C) 17.05
   (D) 17.061

4. 36 + _____ = 9

   (A) 4
   (B) 45
   (C) -27
   (D) 324

DP

Read the questions below. For each question, circle the correct answer.

1. Which of these is a mammal?

   (A) a butterfly
   (B) a pig
   (C) a snake
   (D) a lizard

2. What is the force that pulls objects towards the earth?

   (A) magnetism
   (B) strength
   (C) weight
   (D) gravity

3. Why should you brush your teeth?

   (A) to make your teeth harder
   (B) to make your teeth sharper
   (C) to help your teeth grow larger
   (D) to keep your teeth from decaying

4. Which of these is least likely to burn in a fire?

   (A) iron
   (B) leaves
   (C) paper
   (D) wood

APPENDIX D

CUTTING OUT PICTURES

COP

CUTTING OUT PICTURES

Description

Children are tested as a group either in their classroom or in a separate room. The ostensible purpose of the children's participation is to provide information on the ability of children to communicate how to do something through written instructions. The children are told that students at other schools have been asked to write directions on how to complete each of five tasks involving cutting out pictures and placing them on pieces of paper. The purpose of the present children's participation is to follow the instructions for each task and in three minutes complete as many pictures as possible for the direction writer. The children are told that each direction writer at the other schools will be rewarded according to how many pictures the children properly cut out and place on pieces of paper. In order to evoke an altruistic response from the children, the sheet of paper on which the directions are printed contains a photograph of the direction writer. The directions themselves are preceded by a brief statement from the direction writer giving his name, his grade, and an appeal to the child to do well so that the direction writer will win a prize.

Before the process begins, each child is given five paper bags (lunch-size) with his or her name on them containing the specific materials for each task. At the completion of each task, the children are told to return all of the materials to the bag for that task, including the completed pictures. This procedure helps keep each child's performance relatively private and also keeps the materials for each task in order. The bags are collected at the end of the session. The helping score is the total number of pictures cut out for others. The entire session takes about one hour and 15 minutes.

Materials

Lunch bags. You will need five lunch bags for each child to be tested. All five bags for a child should be clearly labeled with the child's name, and, in addition, should be numbered 1 through 5. The number placed on each bag (which denotes the order in which the bags are to be opened) should be large and clearly visible, as illustrated below, so that the child can see it easily.

Picture Sets. Six sets of pictures are required for each child to be tested (see the enclosed material). For the Practice Set of Pictures, it is necessary to have only one copy for each child. For the other five sets of pictures, four copies of each set of pictures should be reproduced for each child. After these are reproduced, the dotted slots in the upper half of each page must be cut with a razor blade or mat knife. These slots are designed to receive the pictures after they have been cut out by the children.

Directions. Each child to be tested will receive a copy of each of the six pages of Directions (see the enclosed material). Each page of Directions corresponds to one set of Pictures. Since the directions for boys and girls differ in terms of the direction writer's name and photograph, separate copies must be made for boys and girls. The appropriate photographs should be attached to the directions in the space indicated.

Photographs. You will need a 2" x 3" photograph of five different boys for each boy to be tested and a 2" x 3" photograph of five different girls for each girl to be tested (see the enclosed examples). The same set of five pictures should be used for all children of the same sex, and the same

photograph should be used for a particular task for all children of the same sex. The photograph should be pasted in the space provided at the top of each sheet of directions. If the sample of children to be tested is ethnically diverse, you should try to represent each ethnic group equally in your photographs. The test development sample contained Caucasion, Japanese, Chinese, Filipino, and Hawaiian children, and, therefore, each of these five ethnic groups was represented by one picture.

Arrangement of materials. For each task and for each child, the appropriate directions and four copies of the corresponding set of pictures should be placed in the child's paper bag. A pair of scissors should be placed on each child's desk along with the practice materials before or after the children arrive for testing.

Additional materials for the Test Administrator. In order to administer the test, the test administrator will need a watch with a second hand (preferably a stop watch), a pair of scissors, and one complete set of practice materials. If the instructions are tape recorded in advance, no stop watch will be needed during the test administration itself.

Room arrangement

No special room arrangement is necessary. Naturally, if possible, the testing room should be reasonably quiet to allow all of the children to hear the instructions.

COP

Instructions

Examiner. Although this procedure may be administered to children individually, it is designed to be given to groups of children. The number of children tested at one session may be as few as one or two, but ordinarily no more than 30 children should be tested in order for the session to go reasonably smoothly.

If possible, it is a good idea for reasons of convenience and standardization of procedures, to tape record the instructions in advance. In the development of the measure, the instructions were tape recorded.

Before the session begins, distribute the materials for each child. These include scissors, Practice Directions and Practice Pictures, and five paper bags containing the task Directions and Pictures.

When all of the children are seated, the session should begin as follows:

Say to the children. "Today, you are going to be part of a study. We are interested in how well children can tell others to do something through written directions. You will not have to write any directions yourselves. Instead, you will help us to judge the directions that some other children have written. We want you to help us decide how well these other children did at writing directions."

"In order to study this, we chose some boys and girls at other schools and asked them to write directions for several different tasks. These tasks involve cutting out pictures and placing them properly on pieces of paper." (Pause.)

Examiner. Hold up Practice Set of Pictures and show how they might go on the piece of paper.

Say to the children. "Your job today will be to read these directions--

by yourself--and cut out pictures from a page according to the directions. Then you will place them on a piece of paper according to the directions. You will continue doing this until the time is up for the task. If the instructions are good, you probably won't have any trouble. But if the instructions are bad, you wont be able to get very many pieces of paper done."

"In order to get the children at the other schools to write the best directions they could, we made a deal with them. We told them that we would give their directions to children at another school--you kids--and see what they thought of them. We told them that if you did a lot of pictures, we would give them a nice prize. But if you did not do a lot of pictures, we told them we would not give them any prize at all. So if you don't feel that a child deserves a prize, just don't do very many pictures. Probably some of these kids are pretty good at writing directions and will get a prize. Others may not be so good and therefore won't get a prize. However, each of you will be the judge of that." (Pause.)

"Each of you will be given some materials in a paper bag." (Pause)

Examiner. Hold up the Practice Materials.

Say to the children. "There will be one bag for each of the tasks you will be asked to do. The bags will be numbered in the order in which you will use them. The bag to be opened first will be numbered 1, the one to be opened second will be numbered 2, and so forth."

"Each bag will contain several pieces of paper with pictures on them and a sheet with directions on it." (Pause.)

Examiner. Hold up the Practice Set of Pictures and the Practice Directions.

Say to the children. "The sheet of paper with directions on it will

have a photograph of the child who wrote the directions. It will also have a few words of greeting to you from the direction writer. Below that will be the directions the child wrote to tell you how to cut out the pictures and where to place them on the paper."

"Now, let's take a few minutes to practice."

Practice Task

Examiner. If you are using a tape recorder, turn it off at this point and show the children how the procedure works, using the Practice Directions and Practice Set of Pictures, as well as the pair of scissors that were placed on their desks. First, have them read the directions along with you. After that, have the children cut out the pictures along with you and place them in the slits on the sheet in the proper fashion.

During practice, show the children how to insert the pictures without tearing the slot. This tends to be a problem. Also, at this time and later, watch carefully for children who are cutting out all three sheets at the same time. The pictures should be cut out one sheet at a time.

Remember that the entire task should be low keyed. The children should at no time be encouraged to work fast or competitively. This is a test of the childs inclination to help another child, not a measure of intelligence or psychomotor ability. If the child wishes to help the direction writer win a prize, he will work quickly; otherwise, he will work slowly. The decision must be left up to the child. Your attitude and manner should be detached. During the practice period, you should be concerned only with whether the children understand the procedure.

The practice period should take no more than five minutes. At the end of that time, continue with the instructions.

Say to the children. "Be sure to do only one sheet of pictures at a time. The reason for this is that only completed sheets count. So do one

piece of paper completely and then go on to the second, and so on." (Pause.)

"Some of you may not be familier with a few of the words used in the directions. Let's take a minute to review their meanings."

Examiner. Write the following words on the blackboard before the test session; point to the words during the instructions, as you also point to the proper thing or operation on the sheet containing the Practice Set of Pictures.

Say to the children. "The first word is SLOT. A SLOT is what you put the picture into." (Pause.)

"The next two words are RIGHT and LEFT. Do all of you know which is right and which is left?" (Pause.)

The next set of words is: HORIZONTAL, VERTICAL, OBLIQUE, AND DIAGONAL. A HORIZONTAL line goes from left to right. A VERTICAL line goes up and down, from top to bottom. An OBLIQUE line is between a horizontal and a vertical line; it goes from upper left to lower right or from lower left to upper right. DIAGONAL means the same thing as OBLIQUE." (Pause.)

The next bunch of words is: PUT, INSERT, SLIP, AND PLACE." All of these words mean the same thing. They all mean to put the pictures in the SLOT." (Pause.)

"The last word is DISCARD. It means to throw something away." (Pause.)

Task 1 "OK, pick up the bag numbered 1 and place it on top of your desk. Make sure your scissors are handy. When I give you the signal, open the bag, and read the directions. I will give you one minute to read the directions. During that time you may look at the materials you will be working with, but please do not actually start cutting out pictures until I tell you. Please do not talk while you are working. OK, read the directions now."

Examiner. The children should be given exactly one minute to read the directions. Try to keep the children from talking to each other and especially from making comments about the direction writer. At the end of one minute, continue with the instruction.

Say to the children. "OK, all of you should have read the directions by now."

"Before you begin the task, let me mention again that we are not trying to see how well you can do these things. We are interested only in how well these other kids did at writing directions. If you don't do very many pictures, it's not your fault. It's just that you didn't get very good directions. In that case we won't give the child at the other school a prize. If you do lots of pictures, then the directions are okay, and we will give the child who wrote them a prize."

"OK, begin the task now."

Examiner. The first task and each succeeding task should last exactly three minutes. It is essential that the children be given exactly three minutes and that all children be stopped on time. Also, during the three minutes and succeeding three-minute periods, do not monitor how the children are doing. Remain at your desk and do not pay attention to what individual children are doing. Remember, do not try to get the children to work fast. At the end of three minutes, continue with the instructions.

Say to the children. "All right, stop. Now, carefully put all of your materials, except your pair of scissors, back in the paper bag numbered 1. Be sure that the pictures do not fall out of their slots. Carefully fold up the bottom half of the sheets--that's the part that you cut the picture out of--and place them in your bag also."

Examiner. Make sure the children do this properly. If you are using

a tape recorder, turn it off at this point to give the children sufficient time to put the materials in the first paper bag. Proceed with the next task when all materials have been placed in the correct bag and the bag has been put aside.

Task 2 Say to the children. "Now pick up the bag numbered 2. Take out the materials and, when I tell you, read the directions. As before, do not actually start cutting out pictures until I tell you to start. OK, read the directions now."

Examiner. The children should be given exactly one minute to read the directions.

Say to the children. "OK, all of you should have read the directions. From the moment I give the signal to start, you will have three minutes. OK, start.

Examiner. The children should be given exactly three minutes.

Say to the children. "All right, stop. Now put all of your materials in the paper bag numbered 2. However, be sure to keep out your scissors, so that you can use them for the next task." (Long pause.)

Task 3 Say to the children. "Now, pick up the bag numbered 3. Take out the materials, and read the directions. You will have one minute to read the instructions. Begin reading the directions now."

Examiner. The children should be given exactly one minute to read the directions.

Say to the children. "OK, you should be done with the directions. Start the task now."

Examiner. The children should be given exactly three minutes.

Say to the children. "OK, stop. Put all of your materials, except your scissors, back in the bag numbered 3. (Long pause.)

Task 4

Say to the children. "Pick up the bag numbered 4. Take out the materials and read the directions. You will have one minute to read the directions. Begin the directions now."

Examiner. The children should be given exactly one minute.

Say to the children. "OK, you should be done with the directions by now. You will have three minutes for the task. Begin the task now."

Examiner. The children should be given exactly three minutes.

Say to the children. OK, your time is up. Put all of the materials except your scissors, back in the bag numbered 4. (Long pause.)

Task 5

Say to the children. "Pick up the bag numbered 5. Take out the materials, and read the directions. OK, read the directions now."

Examiner. The children should be given exactly one minute.

Say to the children. "You should be done with the directions now. From the moment I give the signal to start, you will have three minutes to work on the task. OK, start now."

Examiner. The children should be given exactly three minutes.

Say to the children. "OK, stop. Your time is up. Put all of your materials, except your scissors, in the bag numbered 5. Your scissors will be picked up separately. Please remain seated while the scissors and bags are picked up."

"Thank you for helping us."

Examiner. At this point, you should collect all five bags from each child (a cardboard box is helpful for this purpose). After you have done this, the children may be dismissed.

Computing and Recording Scores

Following the testing session, the Record Form for the task should be completed (see the enclosed form). On the form write: (1) the date the testing was done; (2) the name of the examiner; (3) the name of the teacher from whom the children were obtained; and (4) the number of the present task in the total battery of measures, if other tasks are being administered to the same children. Then, record each child's name and his Helping score. The child's Helping score is simply the total number of pictures he cut out, regardless of whether he inserted them.

Helping = Total Number of Pictures Cut Out.

The lowest score that a child could get is, of course, 0 (low helping), while the highest score is 60 (high helping).

COP

RECORD FORM

Date: _____

Name of Examiner: _____

Teacher's Name: _____

Task Number (if other tasks are used): _____

	Name (and/or Identification Number)	Total Number of Pictures Cut Out
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		

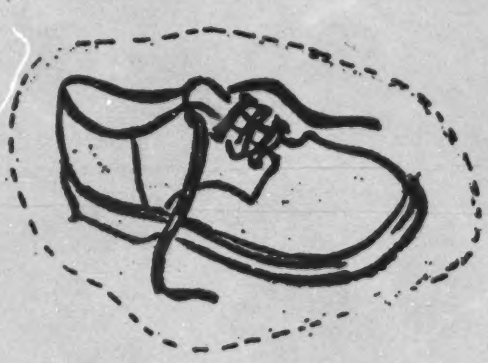
COP

	Name (and/or Identification Number)	Total Number of Pictures Cut Out
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		

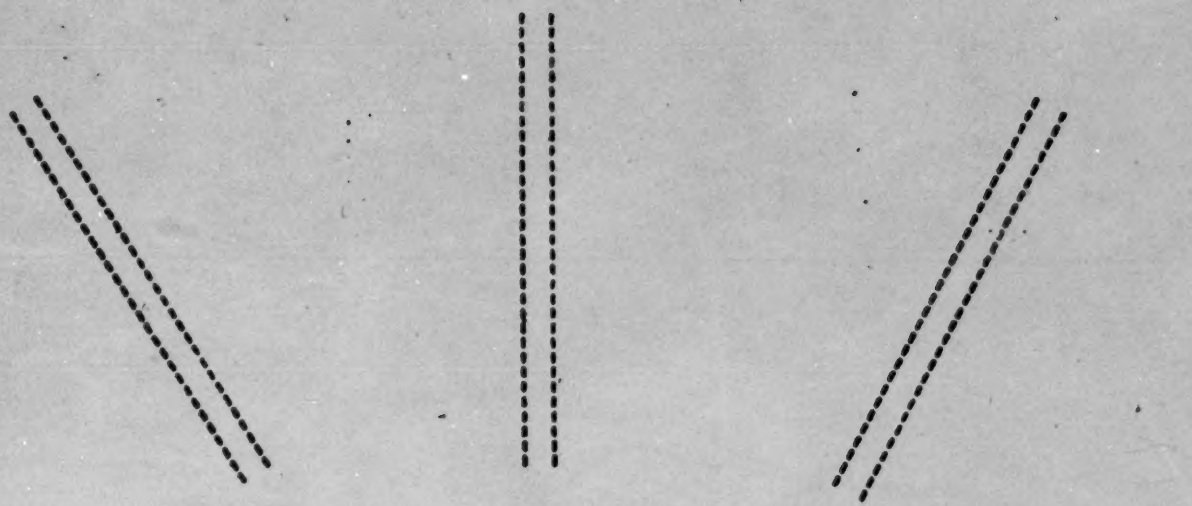
PICTURE SETS

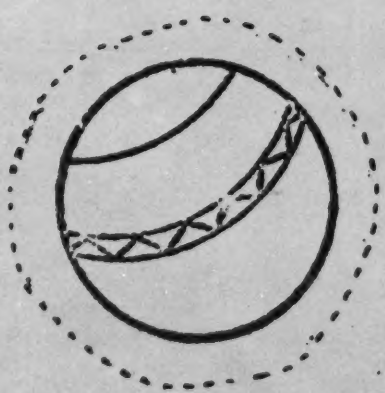
COP-P

THINGS TO WEAR

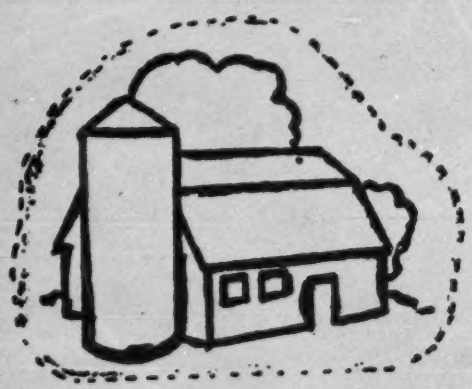


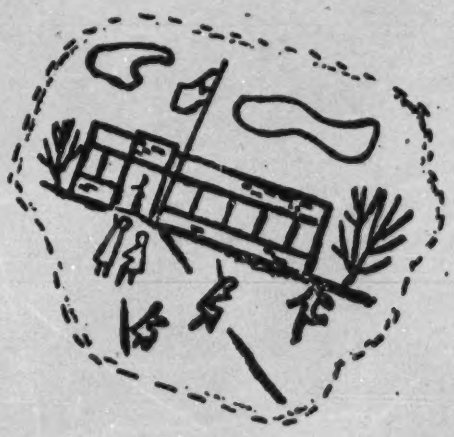
TOYS

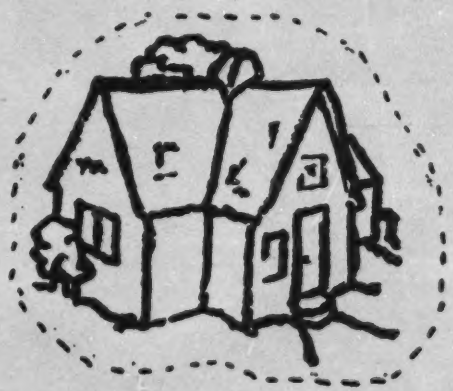




BUILDINGS

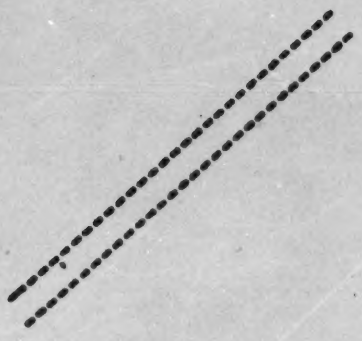


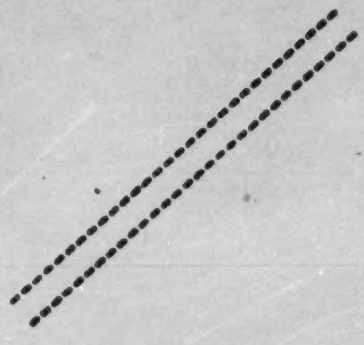


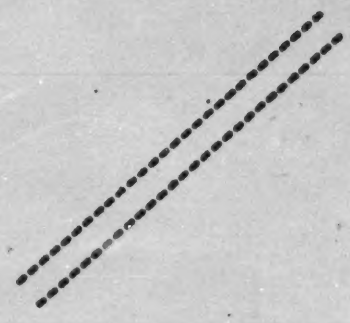


COP-3

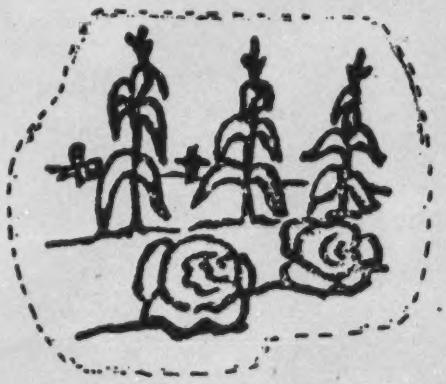
PEOPLE

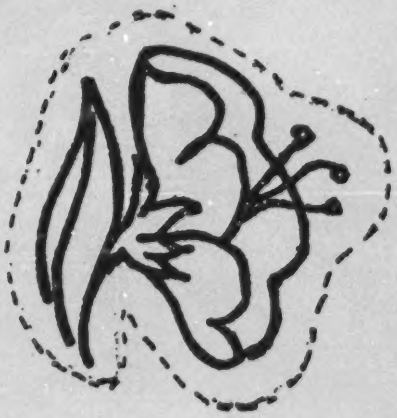






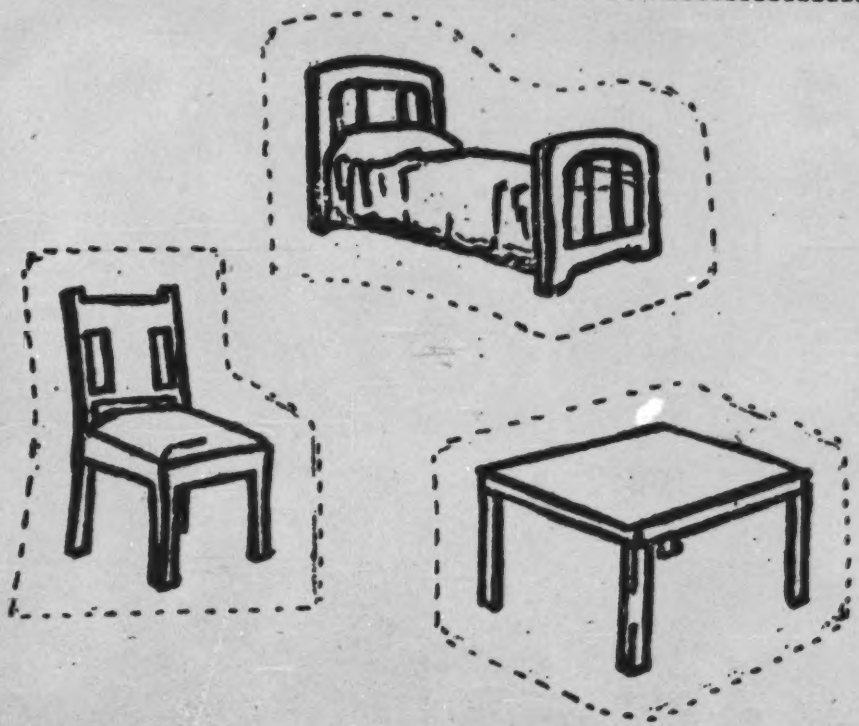
PLANTS





COP-5

FURNITURE



DIRECTIONS AND PHOTOGRAPHS

(BOYS)

(Please note: The accompanying photographs were approved for use by the parents of the children only for the purpose of the test development project. No approval has been granted for use by other individuals.)

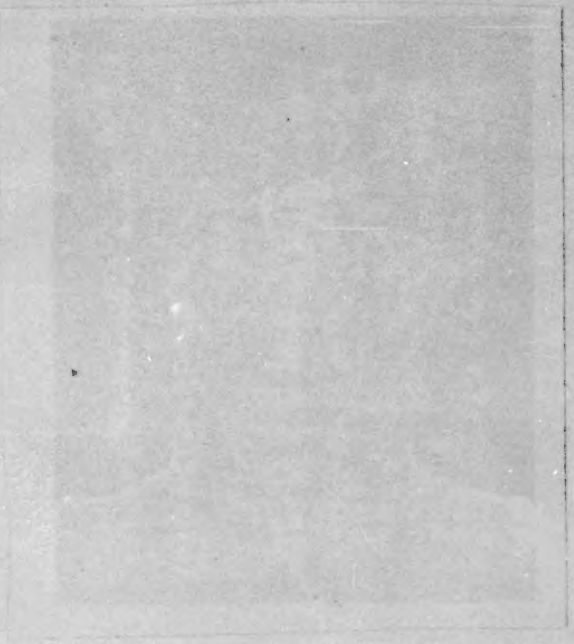
COP-P

PRACTICE

DIRECTIONS

1. Cut along the dotted line which runs across the page.
2. Cut out the pictures of the coat, shoe, and hat.
3. Put the coat in the slot at the right of the page.
4. Put the hat in the slot at the top of the page.
5. Put the shoe in the slot at the left of the page.

COP-1



TASK 1

Hello.

My name is ALFRED MACABAGBAG.

I am a fifth grader.

I wrote the directions which I hope you will follow to the best of your ability. If you can follow my directions very well, then I will get a prize for writing clear directions. Thank you.

DIRECTIONS

1. Cut out the ball, doll, and toys along the dotted line around them.
2. Insert the ball in the diagonal slot to the left of the page.
3. Insert the doll in the slot which is not diagonal.
4. Insert the toys in the remaining slot.
5. Discard the part of the page from where you cut out the pictures by cutting along the dotted line that divides the page into two parts.

COP-2

TASK 2

Hi. I wrote some directions for you to follow. My name is LLOYD LAUHALA. I am in grade 5. If you try your best to follow the directions I wrote, I will get the prize for writing directions which can be understood easily. Thank you.

DIRECTIONS

1. Cut along the dotted line which runs across the page.
2. Cut out the pictures of buildings along the dotted line around them.
3. Slip into the middle slot the picture of the school.
4. Slip the house into the top slot.
5. Slip the picture of the barn into the bottom slot.

COP-3

TASK 3

Hi!

My name is WAYNE YAMAMOTO and I am in Grade 5. Would you like to help me win a prize for writing clear directions? You could do so by following the directions I wrote very well. Thank you.

DIRECTIONS

1. Cut out the three pictures.
2. Separate the part of the sheet where you cut the pictures out from the part of the sheet which contains the slots by cutting along the dotted line across the page.
3. Put the picture of the mother reading to her child into the middle slot.
4. Put the picture of the three children into the lowest slot.
5. Put the picture of the baby eating his food into the vacant slot.

TASK 4

Aloha. I am MICHAEL HU, a Grade 5 student. I would like to win the prize for writing directions which you can understand easily. I can win if you will be able to follow the directions I wrote by doing your best.

DIRECTIONS

1. Cut along the line which runs across the middle of the page which shows slots in the upper half and pictures of plants on the lower half.
2. Cut out the plants along the dotted line.
3. Place the tree in the horizontal slot.
4. Place the flower in the oblique slot to the left of the page.
5. Place the remaining picture in the remaining slot.

TASK 5

Hello. My name is RUSSELL WILLIAMS and I am in Grade 5. Please do your best in following the directions I wrote. If you can follow them very well, then I will win the prize for writing clear directions. If you cannot follow the directions I wrote, then I will not be able to win any prize.

DIRECTIONS

1. Cut out the pictures of the chair, table, and bed.
2. In the middle slot, insert the chair.
3. In the third slot from the left, insert the furniture which we use to sleep on.
4. Insert the furniture we use to write on in the left slot.
5. Cut the page into two parts and throw away the bottom part.

DIRECTIONS AND PHOTOGRAPHS

(GIRLS)

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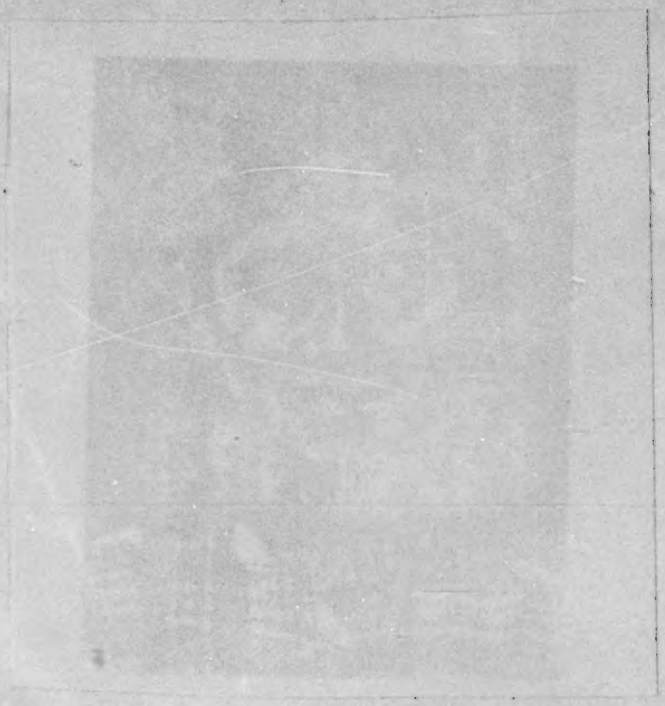
COP-1



TASK 1

Hello.

My name is SUSAN DACANAY.

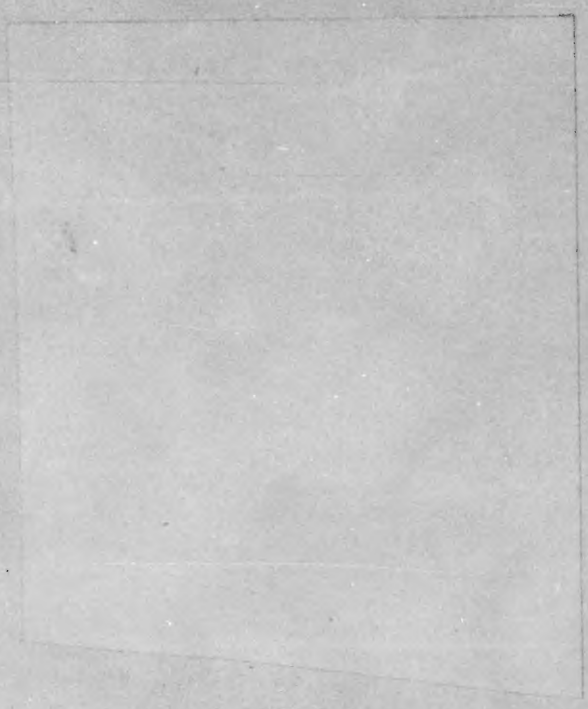
I am a fifth grader.

I wrote the directions which I hope you will follow to the best of your ability. If you can follow my directions very well, then I will get a prize for writing clear directions. Thank you.

DIRECTIONS

1. Cut out the ball, doll, and toys along the dotted line around them.
2. Insert the ball in the diagonal slot to the left of the page.
3. Insert the doll in the slot which is not diagonal.
4. Insert the toys in the remaining slot.
5. Discard the part of the page from where you cut out the pictures by cutting along the dotted line that divides the page into two parts.

COP-2



TASK 2

Hi. I wrote some directions for you to follow. My name is MAILE KAWELO. I am in grade 5. If you try your best to follow the directions I wrote, I will get the prize for writing directions which can be understood easily. Thank you.

DIRECTIONS

1. Cut along the dotted line which runs across the page.
2. Cut out the pictures of buildings along the dotted line around them.
3. Slip into the middle slot the picture of the school.
4. Slip the house into the top slot.
5. Slip the picture of the barn into the bottom slot.

COP-3

TASK 3

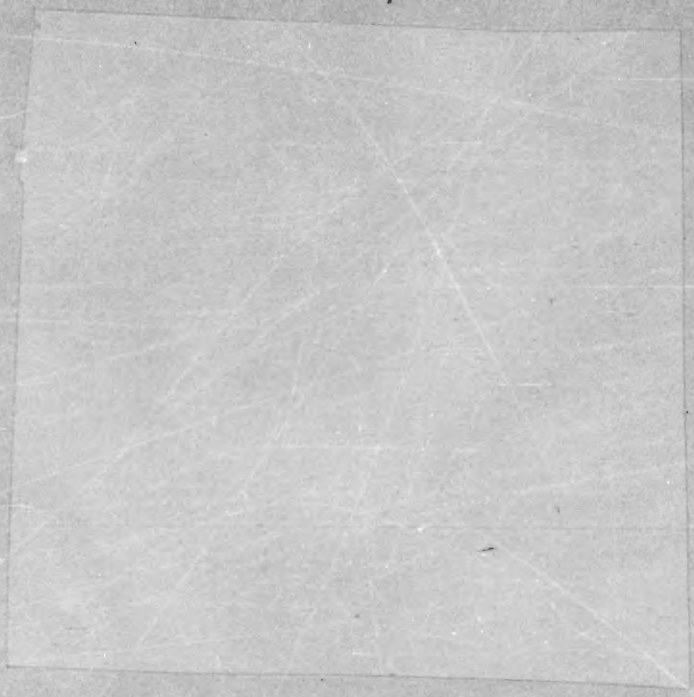
Hi!

My name is YVONNE TANAKA and I am in Grade 5. Would you like to help me win a prize for writing clear directions? You could do so by following the directions I wrote very well. Thank you.

DIRECTIONS

1. Cut out the three pictures.
2. Separate the part of the sheet where you cut the pictures out from the part of the sheet which contains the slots by cutting along the dotted line across the page.
3. Put the picture of the mother reading to her child into the middle slot.
4. Put the picture of the three children into the lowest slot.
5. Put the picture of the baby eating his food into the vacant slot.

COP-4



TASK 4

Aloha. I am SUE ANN CHING, a Grade 5 student. I would like to win the prize for writing directions which you can understand easily. I can win if you will be able to follow the directions I wrote by doing your best.

DIRECTIONS

1. Cut along the line which runs across the middle of the page which shows slots in the upper half and pictures of plants on the lower half.
2. Cut out the plants along the dotted line.
3. Place the tree in the horizontal slot.
4. Place the flower in the oblique slot to the left of the page.
5. Place the remaining picture in the remaining slot.

COP-5

TASK 5

Hello. My name is VICKI HENDERSON and I am in Grade 5. Please do your best in following the directions I wrote. If you can follow them very well, then I will win the prize for writing clear directions. If you cannot follow the directions I wrote, then I will not be able to win any prize.

DIRECTIONS

1. Cut out the pictures of the chair, table, and bed.
2. In the middle slot, insert the chair.
3. In the third slot from the left, insert the furniture which we use to sleep on.
4. Insert the furniture we use to write on in the left slot.
5. Cut the page into two parts and throw away the bottom part.

APPENDIX E

DIVIDING CHIPS

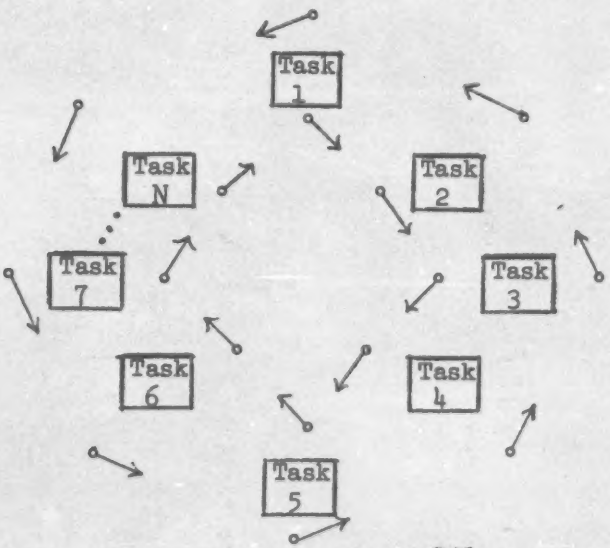
DC

DIVIDING CHIPS

Description

This task is designed to be given to a group of children, either in a separate room or in the children's classroom. The ostensible purpose of the procedure is to see how well children are able to work together in performing simple tasks.

After the number of children to be tested at a session is determined (the maximum is 30), that number of desks are arranged in two circles, one within the other, so that each desk in one circle faces a desk in the other circle (see the diagram below). Each pair of children occupying opposite desks are partners. Children are assigned randomly to their starting positions to minimize effects arising from selection of places based on friendship patterns or other factors that might differentially influence sharing. During the session, each child has six different partners, one for each new task. The outer circle moves counterclockwise following each task, and the inner circle moves clockwise, as indicated in the diagram below.



Six tasks are arranged in advance on each pair of desks, so that there will be enough for the entire session. The tasks involve determining whether corresponding members of two sets of six-digit numbers are the same or different. One child reads the numbers from his list while the other child listens and records whether his numbers are the same as his partner's. Each task lasts 60 seconds. The order of reading and listening alternates within each circle in order for each child to have an equal number of times as listener and speaker.

At the beginning of the session, each child is given two paper bags (lunch size) with the child's name written on the outside. One bag is empty and is marked "PARTNER," while the other bag contains six stacks of five poker chips and is marked "SELF." Each stack of poker chips is held together by a rubber band. Upon completion of a task, the two children forming a pair exchange their bags marked "Partner." Then, with the two bags held below the desk so that the other child cannot see, each student opens the bag marked "Self" and removes 0-5 poker chips and places them in his partner's bag. The children are told to give their partner whatever they think he deserves. Following distribution of the chips, the bags are sealed with a paper clip to keep the contents private. The bags are then returned to the partner, and, on signal, the children rotate to new partners for the next task. The children are told at the beginning of the session that they will be awarded one prize for each 10 chips they have at the end of the session (a maximum of 60 chips is possible).

Upon completion of the sixth task, the bags are collected, and the children are informed that they will be allowed to choose their prizes later, after the chips have been counted. The Sharing score is the number of chips remaining in the bag marked "Self" subtracted from 30. The entire session takes about one hour.

Materials

The following materials are necessary: Lists of six-digit numbers (see the enclosed material), lunch-size paper bags, and poker chips (or some other kind of simple token).

Lists of six-digit numbers. During the procedure, one child in a pair reads a list of six-digit numbers while the other child listens and records whether the six-digit numbers on his list are the same or different. Fifteen different sets of numbers are provided for this purpose; the number of these used for a session is equal to the number of pairs of children to be tested (with a maximum of 15 pairs or 30 children). Since each child has six partners during the session, six copies of each set of numbers must be reproduced. Each member of a set is identified as "Listener" or "Speaker," and each set is labeled with a number from 1 to 15. These sheets should be arranged on the desks before the session begins, as indicated in the information on room arrangement below.

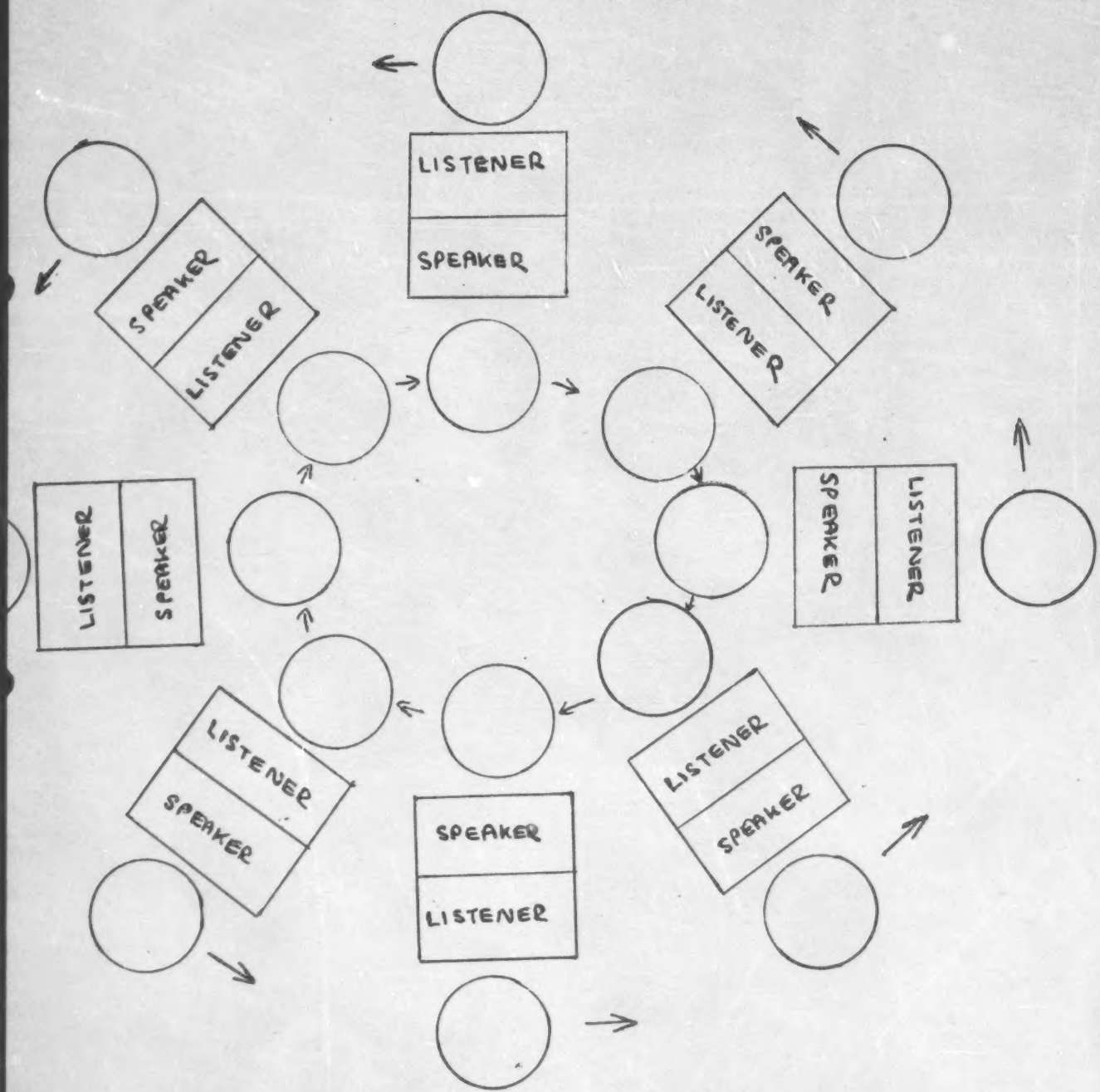
Paper bags. Each child to be tested will need two, lunch-size paper bags, preferably of different colors. One bag, say the brown one, should be labeled "Partner," while the other bag, say the white one, should be labeled "Self." Both bags should be clearly marked with the child's name.

Poker Chips. There should be six stacks of poker chips, each containing five chips, for every child to be tested. Each stack is held together with a rubber band. These stacks of poker chips should be placed in the paper bags marked "Self," before the beginning of the session.

Room Arrangement

The room should be arranged as indicated below. The arrangement may be expanded to accommodate up to 15 pairs of children.

Room Arrangement.



Instructions

Examiner. This procedure is designed to be given to a group of children, with no more than 30 children tested at a single session. The task materials and desks should be arranged in the proper order before the children arrive for the session, if possible (see the information above).

It is a good idea, if facilities are available, to tape record the instructions in advance. Such a procedure is more convenient for administration of the task and also serves to standardize procedures for different groups of participants. The instructions were tape recorded in developing the measure.

When the children enter the room, direct them to their starting places (which should be determined in advance by using a table of random numbers). When all of the children are seated, begin the session as follows:

Say to the Children. "Today, we are interested in seeing how well children can work together. The tasks will involve working together with a partner to see if each of several six-digit numbers are the same or different. Your partner will have one set of numbers and you will have the other set. One of you will say the numbers out loud, while the other will listen and check to see if his six-digit numbers are the same."

"On the top of each of your sheets of paper, it will say either Listener or Speaker. If your sheet says Listener, you are the one who listens and records whether the numbers are the same or different. If your sheet says Speaker at the top, then you are the one who reads the numbers out loud."

"Let's look at an example. Look at the top sheet on your desk now. It has a list of four six-digit numbers on it. At the top, it says either Listener or Speaker. If your sheet says Speaker you will read the numbers; if your sheet says Listener you will listen and check if the numbers are the

same or different. OK, can you tell me who the Speakers are? Speakers, please raise your hands." (Pause, and check to see that everyone is correct.) "Fine, now who are the Listeners? Listeners, would you raise your hands?" (Pause, and check to make sure they understand.)

"OK, now, the first six-digit number on the Speakers' sheet is 653221." (Pause.) "All of the Speakers say the number to your partner." (Pause.) "Now, listeners, check the first six-digit number on your sheet. Is that number the same or different from 653221?" (Pause.) "It is different, isn't it? The six-digit number on the listeners' sheet is 653321. So you listeners' should place a check under the column "Different" on your sheet. Do you understand?" (Pause.)

Examiner. Check to see that the children understand.

Say to the Children. "Now, look at the second example." (Pause.) "Speakers, say the numbers to your partners." (Pause.) "The number is 735429. Now, Listeners, check whether you have the same or a different number, and mark the proper column on your sheet. Your number is also 735429, so you should place a check under the column "Same" on your sheet for the second example.

"Now, go ahead and do the two remaining examples with your partner." (Pause.)

Examiner. Check to make sure the children understand, and help those who are having trouble.

Say to the Children. "OK, fine. Do you all understand how to do the task?" (Pause.) Fine, now, remove your example sheet and place it to the side, out of your way. You will note that the next sheet has 20 six-digit numbers on it. When I give the signal to begin, you and your partner will do those 20 six-digit numbers. If your paper says Speaker at the top, you

will read the numbers. If your sheet says Listener at the top, you will listen and record whether the numbers are the same or different. You will have 60 seconds in which to do the task."

"Now, one last thing before you begin. On your desks are two paper bags with your name on them. One bag also has 'Partner' written on it and the other has 'Self' written on it." (Pause.) "The one with Self written on it contains six stacks of poker chips, each of which contains five chips." (Pause.) "You may open the bag with Self written on it and look at the poker chips now. Note that each stack of poker chips is held together with a rubber band."

"These poker chips are to be used when you have finished the task with your partner. What you will do when the task is completed is to give your bag marked Partner to your partner, while he gives you his bag marked Partner. You will have two bags at that point--one with your partner's name on it which is marked Partner and one with your name on it which is marked Self. What you are supposed to do is hold the two bags below your desk, so that your partner can't see, and take out zero to five poker chips from one of the stacks in the bag marked Self and put them in your partner's bag. The number of poker chips in a stack that you give to your partner will depend on whatever you think he deserves. If you don't think he deserves any poker chips, then you won't give him any. If you think he deserves one, two, three, four, or five poker chips, you will give him that many."

"Do you understand?" (Pause.) "After you have completed a task, your partner will give you his bag with his name on it marked Partner and you will give him your bag with your name on it marked Partner. Then you will take zero to five poker chips from your bag marked Self and place them in the bag he gave you, marked Partner. The number that you take out and put in his bag

will depend on what you think he deserves. It is very important that he is not able to see how many poker chips you are putting in his bag. So be careful not to let him see, and be sure to not tell him or anyone else how many you are giving. It is supposed to be a secret. So be careful."

"During the session, you will be doing six different tasks, with six different partners. You will go through this procedure after each task with each new partner. That's why there are six stacks of poker chips in your bag. So, remember, you have a maximum of five poker chips that you can give each of your partners. You don't have to give him any, if you don't want to, or you can give him 1, 2, 3, 4, or 5 poker chips. But, you can give your partner no more than five chips. Do you understand? You are to divide only one stack of five poker chips between yourself and your partner following any one task."

"When the session is over, you will turn in both bags with your name on them and we will count up the poker chips in both bags. Each of you will then be allowed later to choose a prize for each 10 poker chips you have." (Pause.) "Do you understand? For every 10 poker chips you have in your two bags at the end of the session, you will get to choose one prize. So 10 poker chips are worth one prize. That means that whatever poker chips you give to your partners you will not have for yourself. The poker chips you give to your partners will count towards the prizes they will get, but they will subtract from the prizes that you will get."

Examiner. Stop at this time to make sure that the children understand the procedures.

Say to the Children. "OK, is everyone ready? When I give the signal, you will have 60 seconds to complete the task." (Pause.) "All right, begin."

Examiner. Time the children for exactly 60 seconds. At the end of that time, continue as follows.

Say to the Children. "All right, stop. Your time is up. Now, take the sheet of paper that you have just done and put it off to the side, out of the way."

"Now each of you give your bag marked Partner to your partner." (Pause.) "Place the two bags below your desk so that no one can see, and take from your bag the number of chips you think your partner deserves. Place those chips in your partner's bag and replace the clip on your partner's bag so that no one can see how many chips you gave him. Please do not talk to each other while you are doing this. Remember, the number of poker chips you give your partner is a secret. So don't tell anyone, and nobody should try to see how many someone else is giving. When you get your bag back from your partner, do not look inside. You are not supposed to know how many chips your partner has given you.

Examiner. Give the children about 15 seconds to divide the chips. Do not allow the children to talk during this period. Also, you should NOT pay attention to what individual children are doing. You should busy yourself doing something else during this period.

Say to the Children. "OK, now return your partner's bag to him." (Pause for about five seconds.) "Now get up and move to your next position. Those of you on the inside should move to your right. Those on the outside should also move to your right. In other words, the inside and outside circles move in opposite directions. Do you understand? Those on the inside should move to their right; those on the outside should also move to their right. Make sure when you move to take your two paper bags with

your name on them with you." (Pause long enough for the children to move to their new positions.)

"OK, is everyone ready? When I give the signal, you will have 60 seconds to complete the task." (Pause.) "All right, begin."

Examiner. Time the children for exactly 60 seconds. At the end of that time, continue with the instructions.

Say to the Children. "All right, stop. Your time is up. Take the sheet of paper that you have just done and put it off to the side, out of the way."

"Now, each of you give the bag marked Partner to your partner, and put the number of chips you think he deserves in his bag. When you are finished, replace the paper clip on each bag, and return the bag to your partner." (Pause for about 15 seconds.)

"Now, move to your next position. Remember, those on the inside move to their right, and those on the outside move to their right." (Pause for about 15 seconds.)

"OK, is everyone ready? When I give the signal, you will have 60 seconds to complete the task." (Pause.) "All right, begin."

Examiner. Time the children for exactly 60 seconds. At the end of that time, continue with the instructions.

Say to the Children. "All right, stop. Your time is up. Take the sheet of paper that you have just done and put it off to the side, out of the way."

"Now, each of you give the bag marked Partner to your partner, and put the number of chips you think he deserves in his bag. When you are finished, return the bag to your partner." (Pause for about 15 seconds.)

"Now, move to your next position." (Pause for about 15 seconds.)

"OK, is everyone ready? When I give the signal, you will have 60 seconds to complete the task." (Pause.) "All right, begin."

Examiner. Time the children for exactly 60 seconds. At the end of that time, continue as follows.

Say to the Children. "All right, stop. Your time is up. Take the sheet of paper that you have just done and put it off to the side, out of the way."

"Now, each of you give the bag marked Partner to your partner, and put the number of chips you think he deserves in his bag. When you are finished, return the bag to your partner." (Pause for about 15 seconds.)

"Now, move to your next position." (Pause for about 15 seconds.)

"OK, is everyone ready? When I give the signal, you will have 60 seconds to complete the task." (Pause.) "All right, begin."

Examiner. Time the children for exactly 60 seconds. At the end of that time, continue with the instructions.

Say to the Children. "All right, stop. Your time is up. Take the sheet of paper that you have just done and put it off to the side, out of the way."

"Now, each of you give the bag marked Partner to your partner, and put the number of chips you think he deserves in his bag. When you are finished, return the bag to your partner." (Pause for about 15 seconds.)

"Now, move to your next position." (Pause for about 15 seconds.)

"OK, is everyone ready? When I give the signal, you will have 60 seconds to complete the task." (Pause.) "All right, begin."

Examiner. Time the children for exactly 60 seconds. At the end of 60 seconds, continue with the instructions.

ession Say to the Children. "All right, stop. Your time is up. Take the sheet of paper that you have just done and put it off to the side, out of the way."

"Now, each of you give the bag marked Partner to your partner, and put the number of chips you think he deserves in his bag. When you are finished, return the bag to your partner." (Pause for about 15 seconds)

"OK, in a moment I will ask you to bring your two paper bags to the front of the room. But first, I want to mention that in the next few days we will count the number of prizes you have coming. When we have finished, we will let you know when you can come to choose your prizes." (Pause.) "Thank you very much for your help."

Examiner. At this point, you may collect the paper bags yourself, or you may have the children bring them to the front of the room.

Computing and Recording Scores

Following the testing session, the Record Form for the task should be completed (see the enclosed form). On the form, write: (1) the date the testing was done; (2) the name of the examiner; (3) the name of the teacher from whom the children were obtained; and (4) the number of the present task in the total battery of measures, if other tasks are being administered to the same children. Then, record each child's name and his Sharing score. The child's Sharing score is simply the number of chips kept by the child for himself (the number in the bag marked "Self"), subtracted from 30 (the total number of chips with which the child started).

Sharing = 30 - (number of chips kept for self).

The score may range from a low of 0 (no sharing) to a high of 30 (high sharing).

DC

RECORD FORM

Date: _____

Name of Examiner: _____

Teacher's Name: _____

Task Number (if other tasks are used): _____

	Name (and/or Identification Number)	Number of Chips
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		

	Name (and/or Identification Number)	Number of Chips
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		

SPEAKER

EXAMPLES

1. 653221
2. 735429
3. 907328
4. 760023

DC-0L

LISTENER

EXAMPLES

		SAME	DIFFERENT
1.	653321	____	____
2.	735429	____	____
3.	907329	____	____
4.	760023	____	____

SPEAKER

1. 216540
2. 865728
3. 700035
4. 380270
5. 297500
6. 107910
7. 864271
8. 915823
9. 286090
10. 976534
11. 821004
12. 598362
13. 774819
14. 612345
15. 329865
16. 574052
17. 738216
18. 895422
19. 635767
20. 942424

DC-1L

LISTENER

		SAME	DIFFERENT
1.	216540	___	___
2.	847628	___	___
3.	70035	___	___
4.	380270	___	___
5.	297600	___	___
6.	7910	___	___
7.	864271	___	___
8.	713823	___	___
9.	289060	___	___
10.	976534	___	___
11.	821004	___	___
12.	598362	___	___
13.	747189	___	___
14.	612345	___	___
15.	329865	___	___
16.	574052	___	___
17.	783216	___	___
18.	895422	___	___
19.	635767	___	___
20.	942424	___	___

SPEAKER

1. 702645
2. 610124
3. 503763
4. 921821
5. 869030
6. 274502
7. 908701
8. 116872
9. 805794
10. 248067
11. 753915
12. 310283
13. 576259
14. 732554
15. 129801
16. 982431
17. 276935
18. 432726
19. 549342
20. 853924

DC-2L

LISTENER

		SAME	DIFFERENT
1.	702645	____	____
2.	611124	____	____
3.	503763	____	____
4.	921821	____	____
5.	863090	____	____
6.	274502	____	____
7.	908701	____	____
8.	116872	____	____
9.	805794	____	____
10.	248067	____	____
11.	753915	____	____
12.	310283	____	____
13.	576359	____	____
14.	732554	____	____
15.	129801	____	____
16.	983421	____	____
17.	276935	____	____
18.	423726	____	____
19.	549343	____	____
20.	853924	____	____

DC-3S

SPEAKER

1. 647558
2. 838852
3. 841228
4. 259203
5. 176969
6. 156553
7. 950455
8. 959471
9. 103024
10. 522898
11. 77436
12. 344305
13. 381126
14. 490675
15. 073484
16. 233281
17. 710170
18. 984957
19. 513082
20. 503743

DC-3L

LISTENER

		SAME	DIFFERENT
1.	647558	____	____
2.	838852	____	____
3.	841282	____	____
4.	259203	____	____
5.	176969	____	____
6.	156553	____	____
7.	954055	____	____
8.	959471	____	____
9.	103324	____	____
10.	522889	____	____
11.	77446	____	____
12.	344305	____	____
13.	381126	____	____
14.	480675	____	____
15.	073484	____	____
16.	233281	____	____
17.	710170	____	____
18.	984957	____	____
19.	513028	____	____
20.	503743	____	____

SPEAKER

1. 665913
2. 028876
3. 537653
4. 691497
5. 600129
6. 556058
7. 884101
8. 348792
9. 796550
10. 901696
11. 788000
12. 036663
13. 373303
14. 946561
15. 491617
16. 428027
17. 482748
18. 547557
19. 445531
20. 650900

DC-4L

LISTENER

	SAME	DIFFERENT
1. 656913	____	____
2. 028776	____	____
3. 537563	____	____
4. 691497	____	____
5. 600129	____	____
6. 556058	____	____
7. 884010	____	____
8. 384792	____	____
9. 797550	____	____
10. 901696	____	____
11. 888000	____	____
12. 036663	____	____
13. 373303	____	____
14. 945651	____	____
15. 491616	____	____
16. 428072	____	____
17. 482748	____	____
18. 547757	____	____
19. 445531	____	____
20. 650910	____	____

SPEAKER

1. 478698
2. 870017
3. 315913
4. 122733
5. 606265
6. 128222
7. 346912
8. 612125
9. 380409
10. 427379
11. 641679
12. 895787
13. 393239
14. 493247
15. 884347
16. 387068
17. 756081
18. 309082
19. 830544
20. 800788

DC-5L

LISTENER

		SAME	DIFFERENT
1.	478698	___	___
2.	870117	___	___
3.	315913	___	___
4.	123733	___	___
5.	606365	___	___
6.	128222	___	___
7.	349912	___	___
8.	612125	___	___
9.	380409	___	___
10.	427739	___	___
11.	641679	___	___
12.	895787	___	___
13.	392329	___	___
14.	493247	___	___
15.	884327	___	___
16.	387008	___	___
17.	756087	___	___
18.	309082	___	___
19.	830545	___	___
20.	807788	___	___

SPEAKER

1. 866696
2. 302953
3. 564608
4. 453363
5. 326938
6. 464749
7. 840619
8. 043245
9. 206286
10. 373190
11. 32356
12. 439693
13. 975192
14. 995494
15. 366301
16. 351090
17. 602696
18. 929757
19. 953206
20. 577341

DC-6L

LISTENER

		SAME	DIFFERENT
1.	866676	____	____
2.	302953	____	____
3.	564068	____	____
4.	453363	____	____
5.	329628	____	____
6.	466749	____	____
7.	840619	____	____
8.	043245	____	____
9.	206286	____	____
10.	373190	____	____
11.	32356	____	____
12.	439693	____	____
13.	975921	____	____
14.	994494	____	____
15.	366301	____	____
16.	351090	____	____
17.	602696	____	____
18.	929957	____	____
19.	953206	____	____
20.	577431	____	____

SPEAKER

1. 740120
2. 319558
3. 597905
4. 969829
5. 662245
6. 240152
7. 967491
8. 075898
9. 567542
10. 264576
11. 133515
12. 050144
13. 909666
14. 336745
15. 690965
16. 334880
17. 498008
18. 499082
19. 548310
20. 219984

DC-7L

LISTENER

		SAME	DIFFERENT
1.	740102	___	___
2.	319558	___	___
3.	597905	___	___
4.	968929	___	___
5.	662245	___	___
6.	241152	___	___
7.	867941	___	___
8.	075898	___	___
9.	567542	___	___
10.	246576	___	___
11.	133155	___	___
12.	050144	___	___
13.	909666	___	___
14.	336754	___	___
15.	696905	___	___
16.	334880	___	___
17.	498808	___	___
18.	499082	___	___
19.	548210	___	___
20.	229984	___	___

SPEAKER

1. 085288
2. 263727
3. 929239
4. 650269
5. 435840
6. 96471
7. 248787
8. 566700
9. 002213
10. 501933
11. 995915
12. 623776
13. 166532
14. 796645
15. 603258
16. 713010
17. 357425
18. 836363
19. 730588
20. 872294

DC-8L

LISTENER

		SAME	DIFFERENT
1.	082588	___	___
2.	263727	___	___
3.	929239	___	___
4.	650069	___	___
5.	435830	___	___
6.	896417	___	___
7.	248788	___	___
8.	567700	___	___
9.	022213	___	___
10.	501933	___	___
11.	995815	___	___
12.	627376	___	___
13.	166532	___	___
14.	794645	___	___
15.	603258	___	___
16.	713101	___	___
17.	352745	___	___
18.	836663	___	___
19.	730088	___	___
20.	872294	___	___

SPEAKER

1. 485024
2. 690551
3. 653222
4. 587487
5. 314463
6. 802374
7. 312524
8. 963672
9. 967659
10. 546923
11. 363166
12. 862309
13. 482964
14. 383525
15. 238168
16. 640941
17. 389236
18. 615508
19. 803572
20. 817848

DC-9L

LISTENER

		SAME	DIFFERENT
1.	485024	___	___
2.	690515	___	___
3.	652222	___	___
4.	587477	___	___
5.	214463	___	___
6.	802374	___	___
7.	315224	___	___
8.	962763	___	___
9.	967659	___	___
10.	546923	___	___
11.	363166	___	___
12.	363209	___	___
13.	482964	___	___
14.	383525	___	___
15.	238618	___	___
16.	640921	___	___
17.	289235	___	___
18.	615507	___	___
19.	803572	___	___
20.	817848	___	___

SPEAKER

1. 234442
2. 124637
3. 339923
4. 281288
5. 179287
6. 280657
7. 255866
8. 087713
9. 026417
10. 850643
11. 657964
12. 481707
13. 940362
14. 959786
15. 023182
16. 044999
17. 410541
18. 105316
19. 874311
20. 215962

DC-10L

LISTENER

		SAME	DIFFERENT
1.	234442	___	___
2.	124637	___	___
3.	393923	___	___
4.	281298	___	___
5.	172897	___	___
6.	80675	___	___
7.	255868	___	___
8.	087733	___	___
9.	026417	___	___
10.	850634	___	___
11.	657964	___	___
12.	481707	___	___
13.	940632	___	___
14.	859768	___	___
15.	023192	___	___
16.	044999	___	___
17.	410540	___	___
18.	105316	___	___
19.	874311	___	___
20.	215962	___	___

DC-11S

SPEAKER

1. 474606
2. 604794
3. 562305
4. 484179
5. 143722
6. 851673
7. 275582
8. 003682
9. 478565
10. 560884
11. 519924
12. 824395
13. 406448
14. 171707
15. 134639
16. 182882
17. 576169
18. 346534
19. 922983
20. 620181

DC-11L

LISTENER

		SAME	DIFFERENT
1.	474606	___	___
2.	064794	___	___
3.	562305	___	___
4.	484199	___	___
5.	143272	___	___
6.	851673	___	___
7.	275582	___	___
8.	003682	___	___
9.	478565	___	___
10.	560884	___	___
11.	519224	___	___
12.	824395	___	___
13.	406448	___	___
14.	171707	___	___
15.	134639	___	___
16.	182882	___	___
17.	576169	___	___
18.	346544	___	___
19.	921983	___	___
20.	620191	___	___

DC-12S

SPEAKER

1. 103753
2. 765158
3. 629863
4. 907562
5. 083000
6. 927040
7. 667525
8. 666109
9. 571888
10. 791071
11. 542221
12. 220138
13. 892210
14. 023626
15. 657877
16. 747338
17. 512727
18. 302131
19. 924413
20. 396517

DC-12L

LISTENER

		SAME	DIFFERENT
1.	103753	___	___
2.	765168	___	___
3.	629863	___	___
4.	907562	___	___
5.	083000	___	___
6.	927041	___	___
7.	667525	___	___
8.	666100	___	___
9.	571888	___	___
10.	791017	___	___
11.	542211	___	___
12.	220138	___	___
13.	891022	___	___
14.	023625	___	___
15.	657877	___	___
16.	747328	___	___
17.	512727	___	___
18.	302131	___	___
19.	924413	___	___
20.	396516	___	___

SPEAKER

1. 040050
2. 998187
3. 639185
4. 290321
5. 940123
6. 423634
7. 012618
8. 106507
9. 985469
10. 380662
11. 508564
12. 750457
13. 406453
14. 228411
15. 532544
16. 441258
17. 417193
18. 844016
19. 192266
20. 013140

DC-13L

LISTENER

		SAME	DIFFERENT
1.	040005	___	___
2.	998187	___	___
3.	639185	___	___
4.	290322	___	___
5.	941023	___	___
6.	423643	___	___
7.	012618	___	___
8.	106570	___	___
9.	986549	___	___
10.	380662	___	___
11.	508564	___	___
12.	750467	___	___
13.	406455	___	___
14.	228411	___	___
15.	532454	___	___
16.	441258	___	___
17.	417193	___	___
18.	844016	___	___
19.	592267	___	___
20.	013140	___	___

SPEAKER

1. 545816
2. 403988
3. 499889
4. 655790
5. 287337
6. 724890
7. 007855
8. 258433
9. 246133
10. 497976
11. 855678
12. 844712
13. 652135
14. 839279
15. 777629
16. 030865
17. 807421
18. 243958
19. 684762
20. 837921

DC-14L

		LISTENER	
		SAME	DIFFERENT
1.	545816	___	___
2.	403899	___	___
3.	489889	___	___
4.	655690	___	___
5.	288337	___	___
6.	714890	___	___
7.	007855	___	___
8.	285433	___	___
9.	046133	___	___
10.	497976	___	___
11.	856678	___	___
12.	847712	___	___
13.	652135	___	___
14.	839279	___	___
15.	777619	___	___
16.	300865	___	___
17.	807427	___	___
18.	243958	___	___
19.	684672	___	___
20.	837921	___	___

SPEAKER

1. 655538
2. 126786
3. 909065
4. 904669
5. 643703
6. 262176
7. 699008
8. 312055
9. 056680
10. 690801
11. 730295
12. 857466
13. 583326
14. 782313
15. 469858
16. 929989
17. 393029
18. 997188
19. 497570
20. 795190

DC-15L

LISTENER

		SAME	DIFFERENT
1.	655385	___	___
2.	126786	___	___
3.	909064	___	___
4.	905669	___	___
5.	643702	___	___
6.	262176	___	___
7.	699008	___	___
8.	312055	___	___
9.	055680	___	___
10.	690801	___	___
11.	720395	___	___
12.	857466	___	___
13.	583326	___	___
14.	782313	___	___
15.	496858	___	___
16.	929989	___	___
17.	393209	___	___
18.	997188	___	___
19.	497570	___	___
20.	799150	___	___

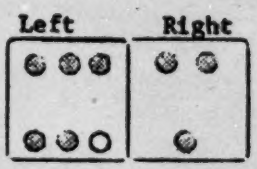
APPENDIX F

SELECTING JOINT REWARDS

SELECTING JOINT REWARDS

Description

Children are tested as a group either in their classroom or in a separate room. Each child is paired randomly with a partner of the same sex, and the two children forming a pair are seated facing each other. All children are given a "Choice Sheet" requiring 16 decisions regarding the number of points to be awarded to the child and his or her partner. Each decision involves a "box" divided into two compartments containing a variable number of dots, as illustrated below. The left side represents



one possibility for the number of points the child and his partner will receive and the right side another possibility; the number of dots on top equals the number of points the child gets and the number of dots on the bottom is the number of points the partner gets. Thus, in the example, the child must choose between getting three points and giving his or her partner three, versus getting two points and giving his or her partner one. The first alternative is a "cooperative" choice, while the second represents a "competitive" choice. The Choice Sheets given to each pair of children are identical, except that the 16 boxes are numbered from 1 to 16 for one child and from 17 to 32 for the other child.

The children are told that their task is to choose either the left side or the right side of each box, place an X on the side they choose,

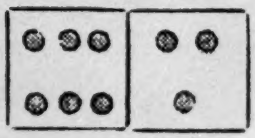
and record the number of points for themselves and their partner. They are further informed that one of the 32 choices that they and their partner will be making will be used to award prizes to them at the end of the session. The particular decision that will be used is determined randomly in advance, and, for that decision, each child receives one prize (valued at approximately 10¢ each) for each point given to them by themselves or their partner. This procedure hopefully encourages the child to have a general approach to the task. It may also lead to the realization that what the partner does may determine the number of prizes the child receives just as much as what the child does.

The children are told that they may talk to each other if they wish and that the test administrator will not interfere with their work. This is intended to allow the children to negotiate with each other regarding mutually advantageous joint-reward conditions, if they wish. The "cooperation" or "sharing" score for the task is simply the total number of points assigned by the child to the partner. The entire session takes less than one hour.

Materials

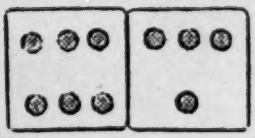
Choice Sheets. Each child to be tested gets one of two Choice Sheets, which are identical except that the choices are numbered consecutively from 1 to 16 on one sheet and from 17 to 32 on the other sheet (see the enclosed pages). The 16 decisions represent four joint-reward conditions, with each condition repeated four times in random order on the page. Within the four repetitions of each condition, the left-right position of each alternative is counterbalanced so that each alternative appears on the left twice and on the right twice. The four conditions are as follows:

Condition 1



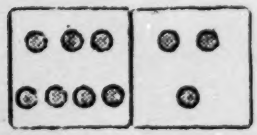
The choice on the left is "cooperative" in that both children get equal rewards. The choice on the right is "competitive" in that the child gets two prizes, while the partner gets only one. Note, however, that by choosing the right side, the child gets one less prize than by choosing the left side.

Condition 2



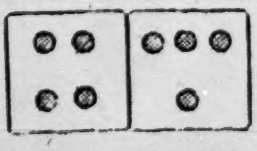
This condition is similar to the first one, except that the competitive choice does not result in a relative loss for the child--he or she gets three prizes either way.

Condition 3



In this condition, the "cooperative" choice on the left results in more points being given to the child's partner than to the child. Nevertheless, the child gets three points by choosing this alternative and only two for choosing the competitive alternative on the right.

Condition 4



In this condition, the "competitive" choice on the right results in a relative gain of one point for the child over the cooperative choice on the left.

Room Arrangement

The children's desks should be arranged so that each pair of children who are partners face each other. Each pair should be seated about four to five feet from other pairs to decrease the chance of their being influenced by what adjacent participants are doing. Around 10 to 15 pairs of children can be seated in a regular-sized classroom. The examiner should be seated out of the way in the room so that he can monitor the activity, but cannot see the choices being made.

Instructions

Examiner. The children should be assigned randomly to their seats. The Choice Sheets should be distributed in advance so that one member of the pair gets the sheet with boxes numbered from 1 to 16 and the partner gets the sheet with boxes numbered from 17 to 32. For reasons of convenience and standardization of procedures, the instructions may be tape recorded in advance. Such a procedure was followed in the development of the measure.

When the children are seated, begin the session as follows:

Say to the children. "Today, you will be doing an activity that requires you to make choices in connection with a partner. Boys will have only boys as partners and girls only girls. But, except for that, the partner you get was determined by chance. So any of your classmates of the same sex as you could have been your partner. The prizes each one of you will get will depend on the choices you make for yourself as well as on the choices your partner makes for you."

"Look at the 'Choice Sheet' on your desk. At the top of the sheet, write your name in the blank space labeled 'My Name.'" (Pause.) "Write your partner's name in the blank space labeled 'My Partner's Name.' For each pair of you, one of you has a sheet with boxes numbered from 1 to 16, while the other has a sheet with boxes numbered 17 to 32. The boxes are the same for both sheets, so that except for the numbers all of you have the same sheet."

"Notice that each box is divided into two parts: the right half and the left half. In each half, there are two rows of dots: the upper row

and the lower row. Each dot is equal to a prize. The dot or dots in the upper row are the number of prizes you choose for yourself. The dot or dots in the lower row are the number of prizes for your partner."

"Now, look at the sample boxes A and B at the top of the page. For sample Box A, if you chose the left half, you would put an X inside the left half, of the box. In the blank space labeled 'For Myself,' you would write a '1,' because there is one dot in the upper half of the left side of the box. For your partner, you would put a '2' in the blank space labeled 'For My Partner,' because this is the number of dots in the lower half of the left side of the box. If you had made this choice, it would mean that you had decided to give yourself one prize and your partner two prizes."

"Now, look at sample Box B. Suppose you chose the right half. On which half will you put an 'X'--on the right or on the left?" (Pause for the response from the children.) "Okay, put an 'X' on the right half." (Pause.) "Now, what will you put in the blank space labeled 'For Myself'?" (Pause for the response from the children.) "'Three' is correct." (Pause.) "How about for the blank space labeled 'For My Partner'?" (Pause for the response from the children.) "'Two' is correct. This means, of course, that you chose three prizes for yourself and two prizes for your partner." (Pause.) "Are there any questions?"

Examiner. Stop and answer any questions. When the questions have been answered, continue as follows.

Say to the children. "Now, listen very carefully. You and your partner will not be given all the prizes you assign to yourself and your partner. You will get only the number of prizes for one of the boxes

that you and your partner do. Inside this envelope is the number of that box." (Hold up the envelope.) "It can be from either your sheet or your partner's sheet. For example, if the number in the envelope were 10, the choices made by the person whose sheet had box number 10 would be the basis for the number of prizes that each of you would receive."

"Some of you may want to talk to your partner as you work. Others may choose to work without talking to their partner. Either way is all right. If you choose to talk, please talk quietly. Try not to disturb the others in the room. Are there any questions?"

Examiner. Stop and answer any questions. Afterwards, continue as follows.

Say to the children. "You will be given five minutes to complete the task. Take your time. There is no need to hurry. If you finish before the time is up, remain quietly seated. When the five minutes are up, I will read the number of the box that determines the number of prizes you will get. I will be at the table over there" (point to the table) "to see to it that you work quietly." (Pause.) "Okay, begin."

Examiner. Begin timing the children for five minutes at this point. After three minutes, remind the children of the time.

Say to the children. "You have two more minutes to finish the task. Try to finish everything in two minutes."

Examiner. It is necessary that everyone complete the task. After one more minute, remind the children of the time again.

Say to the children. "You have one more minute to finish the task."

Examiner. Allow more than five minutes, if necessary, to allow all the children to finish. After all of the children have completed the

task, continue with the instructions.

Say to the children. "All right, pass the sheets with boxes numbered 1 to 16 to the front." (Pause.) "Now, pass me the sheets with boxes numbered 17 to 32." (Pause.)

Examiner. After all of the papers have been collected, hold up the envelope containing the number for assignment of prizes and continue as follows.

Say to the children. "All right, now let's find out how many prizes you're going to get." (Open the envelope and pull out the slip inside. Hold it up so that the children can see the number written on it.) "The box chosen for your prize is box number_____."

Examiner. Thank the children for their participation and tell them when they can pick up their prizes.

Computing and Recording Scores

Following the session, complete the Record Form for the task (see the attached material). On the form, write: (1) the date the testing was done; (2) the name of the examiner; (3) the name of the teacher from whom the children were obtained; and (4) the number of the present task in the total battery of measures, if other tasks are being administered to the same group of children. Then, record each child's name and his "Cooperation" or "Sharing" score. That score is simply the total number of points ("Prizes" or "dots") assigned by the child to his partner. The total number of points ranges from a low of 16 ("competitive" or low "sharing") to a high of 48 ("cooperative" or high "sharing").

	Name (and/or Identification Number)	Total Number of Points
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		

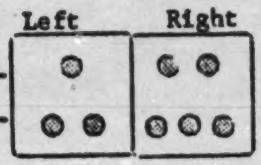
SJR

CHOICE SHEET

My Name: _____

My Partner's Name: _____

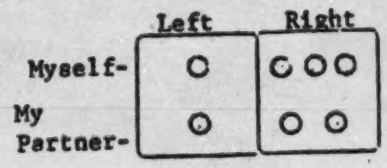
Sample Box A: :



For Myself ____

For My Partner ____

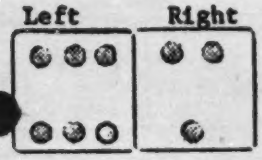
Sample Box B:



For Myself ____

For My Partner ____

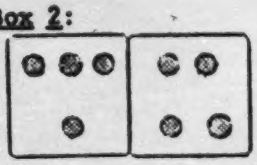
Box 1:



For Myself: ____

For My Partner ____

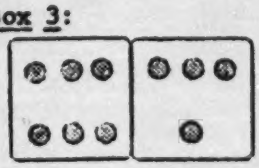
Box 2:



For Myself ____

For My Partner ____

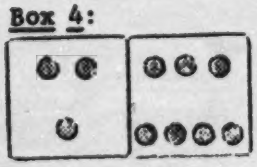
Box 3:



For Myself ____

For My Partner ____

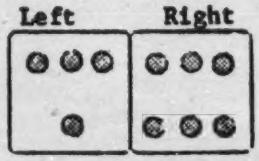
Box 4:



For Myself ____

For My Partner ____

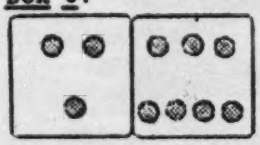
Box 5:



For Myself ____

For My Partner ____

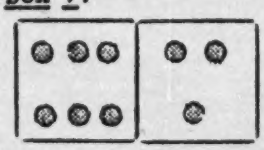
Box 6:



For Myself ____

For My Partner ____

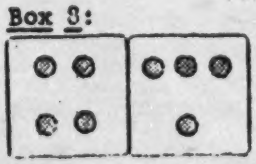
Box 7:



For Myself ____

For My Partner ____

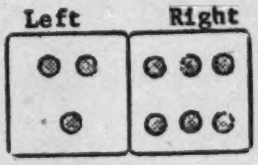
Box 8:



For Myself ____

For My Partner ____

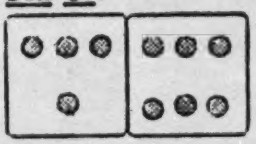
Box 9:



For Myself ____

For My Partner ____

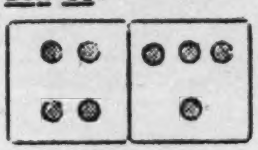
Box 10:



For Myself ____

For My Partner ____

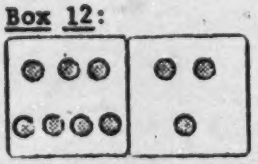
Box 11:



For Myself ____

For My Partner ____

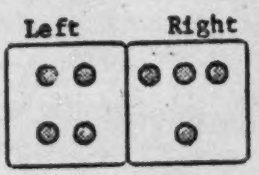
Box 12:



For Myself ____

For My Partner ____

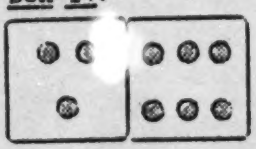
Box 13:



For Myself ____

For My Partner ____

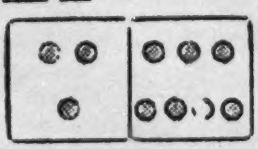
Box 14:



For Myself ____

For My Partner ____

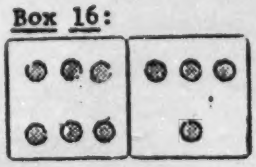
Box 15:



For Myself ____

For My Partner ____

Box 16:



For Myself ____

For My Partner ____

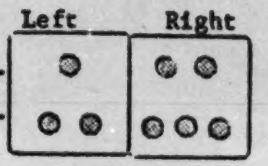
SJR

CHOICE SHEET

My Name: _____

My Partner's Name: _____

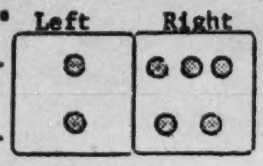
Sample Box A: :



For Myself ___

For My Partner ___

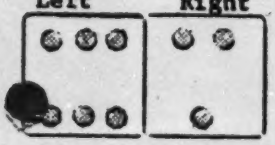
Sample Box B:



For Myself ___

For My Partner ___

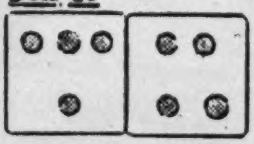
Box 17



For Myself: ___

For My Partner ___

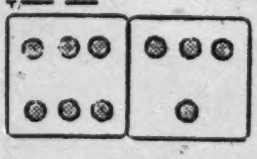
Box 18



For Myself ___

For My Partner ___

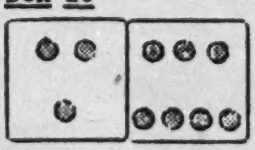
Box 19



For Myself ___

For My Partner ___

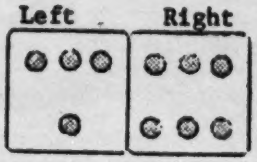
Box 20



For Myself ___

For My Partner ___

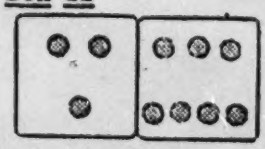
Box 21



For Myself ___

For My Partner ___

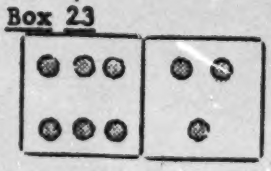
Box 22



For Myself ___

For My Partner ___

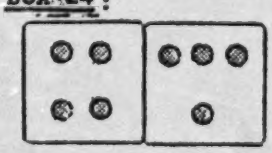
Box 23



For Myself ___

For My Partner ___

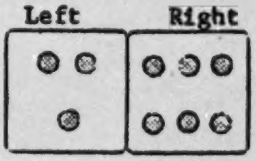
Box 24:



For Myself ___

For My Partner ___

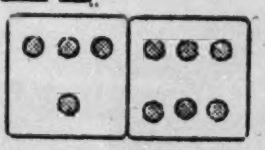
Box 25



For Myself ___

For My Partner ___

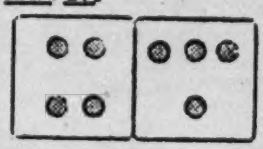
Box 26



For Myself ___

For My Partner ___

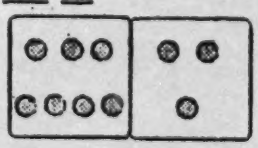
Box 27



For Myself ___

For My Partner ___

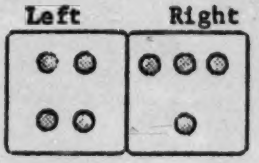
Box 28



For Myself ___

For My Partner ___

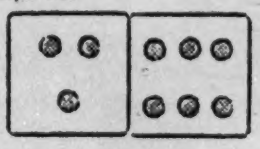
Box 29



For Myself ___

For My Partner ___

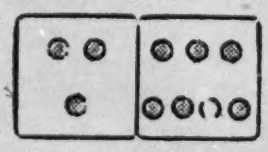
Box 30



For Myself ___

For My Partner ___

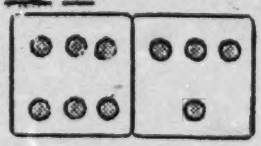
Box 31



For Myself ___

For My Partner ___

Box 32



For Myself ___

For My Partner ___

APPENDIX G

PEER RATING FORM

PRF

PEER RATING FORM

Your Name: _____

Today's Date: _____

(check one) Boy ____ Girl ____

INSTRUCTIONS

This booklet contains a number of questions about your classmates. On each page, there are two questions which are the same except that the first one asks about boys in your classroom and the second one asks about girls in your classroom. You are to answer both questions on each page.

Read each question carefully. Then, using the LIST OF STUDENTS in your class, decide which three boys (or which three girls) fit the statement best. DO NOT INCLUDE YOURSELF AS ONE OF YOUR CHOICES--You can use the names of anyone but yourself. After you have decided who fits the statement best, write in the three names in the spaces provided below the question.

It is all right if one child fits more than one question. However, read each question carefully and think about it separately as you come to it.

For each question you must write in three different names. If you are not sure about one of your choices, you may tell us by drawing a circle around the student's name. If we see a circle around a student's name, then, we will take it to mean that you are in doubt whether the person fits the question.

What you put down will be private and will not be shown to any of your classmates or your teacher. Please do not talk to each other as you do your work.

1A. Which boys work well with other children on tasks or classroom activities involving two or more children?

_____
(write the first boy's name on this line)

_____
(write the second boy's name on this line)

_____
(write the third boy's name on this line)

1B. Which girls work well with other children on tasks or classroom activities involving two or more children?

_____
(write the first girl's name on this line)

_____
(write the second girl's name on this line)

_____
(write the third girl's name on this line)

GO TO THE NEXT PAGE.

2A. Which boys compete with and try to beat other children in classroom activities?

_____
(write the first boy's name on this line)

_____
(write the second boy's name on this line)

_____
(write the third boy's name on this line)

2B. Which girls compete with and try to beat other children in classroom activities?

_____
(write the first girl's name on this line)

_____
(write the second girl's name on this line)

_____
(write the third girl's name on this line)

GO TO THE NEXT PAGE.

3A. Which boys comfort, reassure, and express sympathy for other children who are having trouble or who are in pain?

_____
(write the first boy's name on this line)

_____
(write the second boy's name on this line)

_____
(write the third boy's name on this line)

3B. Which girls comfort, reassure, and express sympathy for other children who are having trouble or who are in pain?

_____
(write the first girl's name on this line)

_____
(write the second girl's name on this line)

_____
(write the third girl's name on this line)

GO TO THE NEXT PAGE.

4A. When another child is having difficulty doing something (such as using equipment or materials), which boys help the child?

_____
(write the first boy's name on this line)

_____
(write the second boy's name on this line)

_____
(write the third boy's name on this line)

4B. When another child is having difficulty doing something (such as using equipment or materials), which girls help the child?

_____
(write the first girl's name on this line)

_____
(write the second girl's name on this line)

_____
(write the third girl's name on this line)

GO TO THE NEXT PAGE.

5A. Which boys will NOT put down what they are doing in order to help another child who is having trouble with a task?

_____
(write the first boy's name on this line)

_____
(write the second boy's name on this line)

_____
(write the third boy's name on this line)

5B. Which girls will NOT put down what they are doing in order to help another child who is having trouble with a task?

_____
(write the first girl's name on this line)

_____
(write the second girl's name on this line)

_____
(write the third girl's name on this line)

GO TO THE NEXT PAGE.

6A. Which boys advise, suggest, and interpret things for other children who need that kind of help?

_____
(write the first boy's name on this line)

_____
(write the second boy's name on this line)

_____
(write the third boy's name on this line)

6B. Which girls advise, suggest, and interpret things for other children who need that kind of help?

_____
(write the first girl's name on this line)

_____
(write the second girl's name on this line)

_____
(write the third girl's name on this line)

GO TO THE NEXT PAGE.

7A. Which boys protect and defend a child who is in danger of being harmed by another child or other children? (For example, trying to stop another child from taking things away from a weaker child; sticking up for a kid who others are teasing or talking about; trying to break up an unfair fight.)

_____
(write the first boy's name on this line)

_____
(write the second boy's name on this line)

_____
(write the third boy's name on this line)

7B. Which girls protect and defend a child who is in danger of being harmed by another child or other children? (For example, trying to stop another child from taking things away from a weaker child; sticking up for a kid who others are teasing or talking about; trying to break up an unfair fight.)

_____
(write the first girl's name on this line)

_____
(write the second girl's name on this line)

_____
(write the third girl's name on this line)

GO TO THE NEXT PAGE.

8A. Which boys give direct help to another child in distress? (For example, helping a child who has fallen down and then picking up the child's things.)

_____
(write the first boy's name on this line)

_____
(write the second boy's name on this line)

_____
(write the third boy's name on this line)

8B. Which girls give direct help to another child in distress? (For example, helping a child who has fallen down and then picking up the child's things.)

_____
(write the first girl's name on this line)

_____
(write the second girl's name on this line)

_____
(write the third girl's name on this line)

GO TO THE NEXT PAGE

9A. Which boys give gifts or small presents to other children just because they seem to enjoy it? (For example, giving toys, or flowers, or games.)

_____
(write the first boy's name on this line)

_____
(write the second boy's name on this line)

_____
(write the third boy's name on this line)

9B. Which girls give gifts or small presents to other children just because they seem to enjoy it? (For example, giving toys, or flowers, or games.)

_____
(write the first girl's name on this line)

_____
(write the second girl's name on this line)

_____
(write the third girl's name on this line)

GO TO THE NEXT PAGE.

10A. Which boys share their things with another child or other children? (For example, allowing others to use their games or school materials; giving others part of their candy or cookies.)

_____
(write the first boy's name on this line)

_____
(write the second boy's name on this line)

_____
(write the third boy's name on this line)

10B. Which girls share their things with another child or other children? (For example, allowing others to use their games or school materials; giving others part of their candy or cookies.)

_____
(write the first girl's name on this line)

_____
(write the second girl's name on this line)

_____
(write the third girl's name on this line)

GO TO THE NEXT PAGE.

11A. Which boys are very popular with their classmates?

_____
(write the first boy's name on this line)

_____
(write the second boy's name on this line)

_____
(write the third boy's name on this line)

11B. Which girls are very popular with their classmates?

_____
(write the first girl's name on this line)

_____
(write the second girl's name on this line)

_____
(write the third girl's name on this line)

GO TO THE NEXT PAGE.

12A. Which boys get very good overall grades and do very well in their school work?

_____
(write the first boy's name on this line)

_____
(write the second boy's name on this line)

_____
(write the third boy's name on this line)

12B. Which girls get very good overall grades and do very well in their school work?

_____
(write the first girl's name on this line)

_____
(write the second girl's name on this line)

_____
(write the third girl's name on this line)

GO TO THE NEXT PAGE.

13A. Which boys are leaders and take on leadership responsibilities frequently?

_____
(write the first boy's name on this line)

_____
(write the second boy's name on this line)

_____
(write the third boy's name on this line)

13B. Which girls are leaders and take on leadership responsibilities frequently?

_____
(write the first girl's name on this line)

_____
(write the second girl's name on this line)

_____
(write the third girl's name on this line)

GO TO THE NEXT PAGE.

14A. Which boys are very friendly and pleasant toward other children? (For example, greeting other classmates in a friendly way; giving verbal or physical signs of affection and friendship; not fighting with others.)

_____
(write the first boy's name on this line)

_____
(write the second boy's name on this line)

_____
(write the third boy's name on this line)

14B. Which girls are very friendly and pleasant toward other children? (For example, greeting other classmates in a friendly way; giving verbal or physical signs of affection and friendship; not fighting with others.)

_____
(write the first girl's name on this line)

_____
(write the second girl's name on this line)

_____
(write the third girl's name on this line)

STOP.

APPENDIX H

CHILDREN'S SOCIAL DESIRABILITY SCALE

(from Crandall, V. C., Crandall, V. J., & Katkovsky, W. A children's social desirability questionnaire. Journal of Consulting Psychology, 1965, 29, 27-36.)

CSD

Your Name: _____

Today's Date: _____

_____ 1. I always enjoy myself at a party.

_____ 2. I tell a little lie sometimes.

_____ 3. I never get angry if I have to stop in the middle of something I'm doing to eat dinner, or go to school.

_____ 4. Sometimes I don't like to share my things with my friends.

_____ 5. I am always respectful of older people.

_____ 6. I would never hit a boy or girl who was smaller than me.

_____ 7. Sometimes I do not feel like doing what my teachers want me to do.

_____ 8. I never act "fresh" or "talk back" to my mother or father.

_____ 9. When I make a mistake, I always admit I am wrong.

_____10. I feel my parents do not always show good judgment.

_____11. I have never felt like saying unkind things to a person.

_____12. I always finish all of my homework on time.

_____13. Sometimes I have felt like throwing or breaking things.

_____14. I never let someone else get blamed for what I did wrong.

_____15. Sometimes I say something just to impress my friends.

_____16. I am always careful about keeping my clothing neat, and my room picked up.

_____17. I never shout when I feel angry.

_____18. Sometimes I feel like staying home from school even if I am not sick.

_____19. Sometimes I wish that my parents didn't check up on me so closely.

_____20. I always help people who need help.

_____21. Sometimes I argue with my mother to do something she doesn't want me to.

GO TO THE NEXT PAGE.

_____22. I never say anything that would make a person feel bad.

_____23. My teachers always know more about everything than I do.

_____24. I am always polite, even to people who are not very nice.

_____25. Sometimes I do things I've been told not to do.

_____26. I never get angry.

_____27. I sometimes want to own things just because my friends have them.

_____28. I always listen to my parents.

_____29. I never forget to say "please" and "thank you."

_____30. Sometimes I wish I could just "mess around" instead of having to go to school.

_____31. I always wash my hands before every meal.

_____32. Sometimes I dislike helping my parents even though I know they need my help around the house.

_____33. I never find it hard to make friends.

_____34. I have never been tempted to break a rule or a law.

_____35. Sometimes I try to get even when someone does something to me I don't like.

_____36. I sometimes feel angry when I don't gey my way.

_____37. I always help an injured animal.

_____38. Sometimes I want to do things my parents think I am too young to do.

_____39. I sometimes feel like making fun of other people.

_____40. I have never borrowed anything without asking permission first.

_____41. Sometimes I get annoyed when someone disturbs something I've been working on.

_____42. I am always glad to cooperate with others.

_____43. I never get annoyed when my best friend wants to do something I don't want to do.

_____44. Sometimes I wish that the other kids would pay more attention to what I say.

_____45. I always do the right things.

GO TO THE NEXT PAGE.

_____46. Sometimes I don't like to obey my parents.

_____47. Sometimes I don't like it when another person asks me to do things for him.

_____48. Sometimes I get mad when people don't do what I want.

STOP.

APPENDIX I

TEACHER RATING FORM

TRF

TEACHER RATING FORM

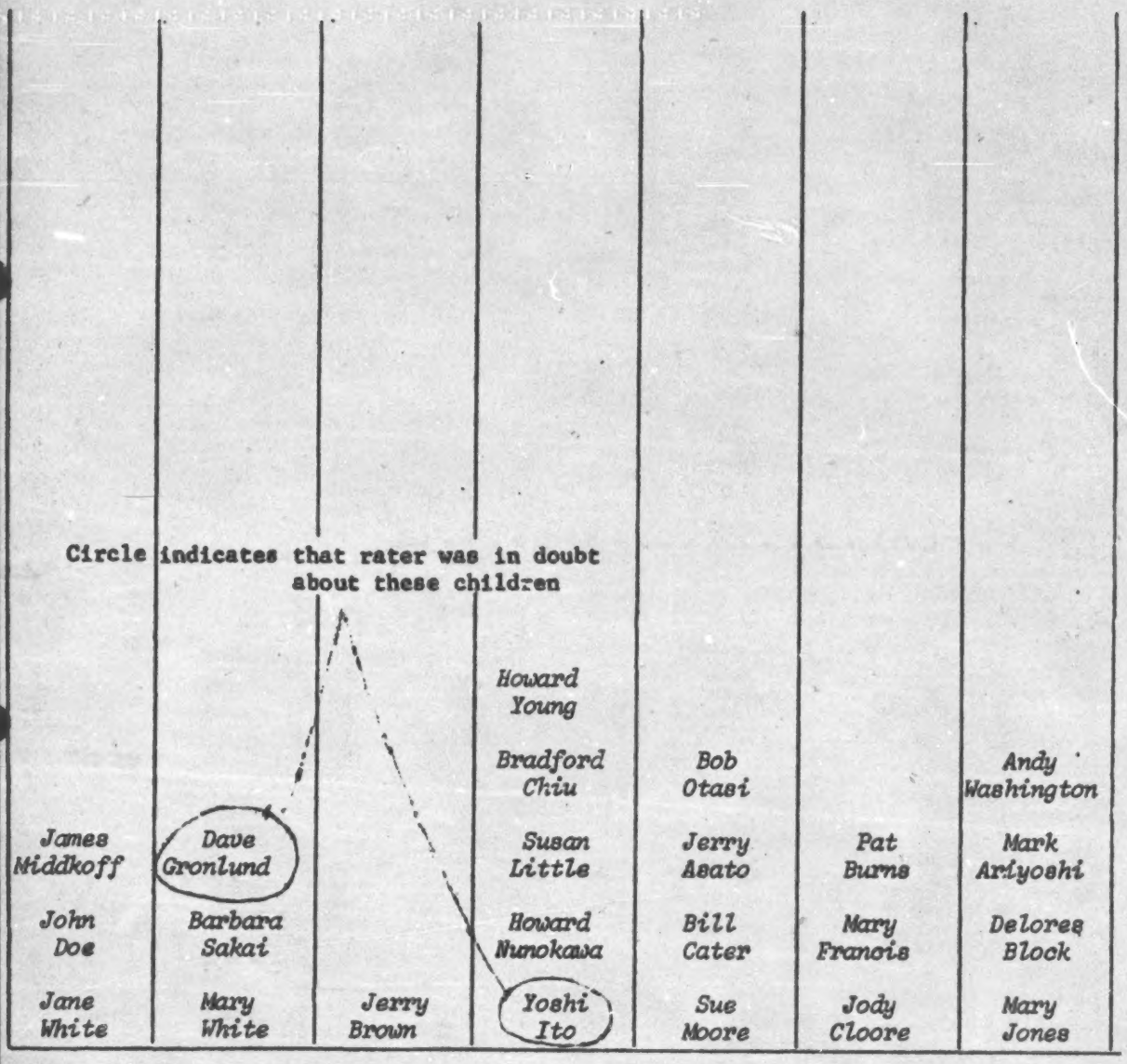
Instructions

Each page of this rating form deals with a different aspect or dimension of your students' behavior. Begin each page by reading the definition of the dimension given at the top of the rating sheet. Then, using the LIST OF STUDENTS, write each student's name in the column corresponding to the rating category that you believe to be appropriate for the child. You can place as many or as few names as you see fit in each category. A sample rating sheet is included on the following page to show you how to enter the children's names.

If for some reason you are unsure of your rating for a particular child, you may convey that by simply circling the child's name, after you have written it in the column that represents your best guess for the child. Also, if you change your mind about the rating for one of the children, just erase the child's name and write it in the category that you believe to be more appropriate.

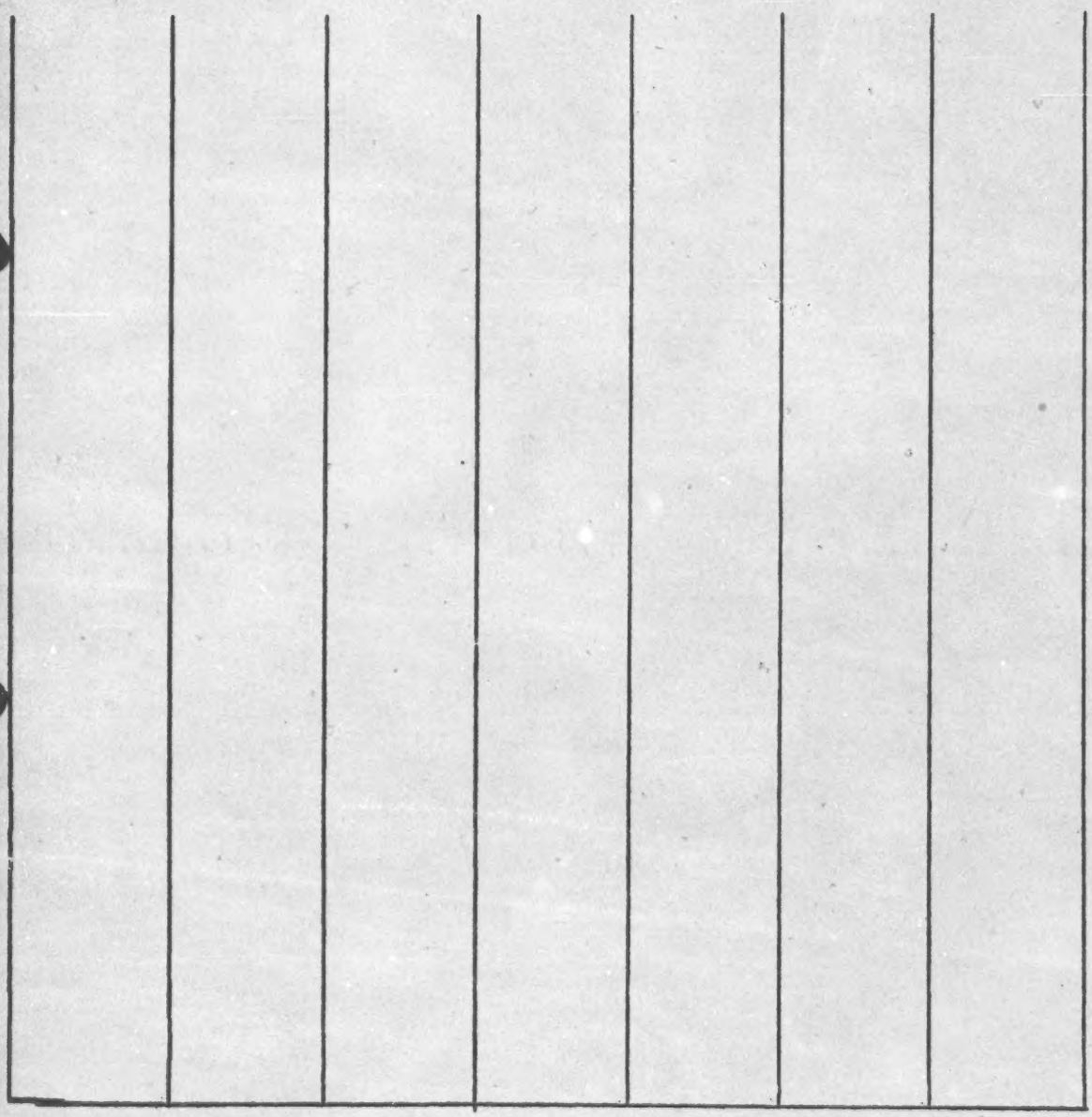
Please complete your ratings for one dimension for all children included on the LIST OF STUDENTS before going on to the next dimension. Some dimensions may be conceptually similar, but each should nevertheless be dealt with independently from the previous ones. It is important, in other words, for you to make your ratings for a dimension in terms of how you feel about that dimension alone, rather than thinking about whether the ratings match or do not match those for another dimension.

correctly answers questions directed to him (her) or to the entire group



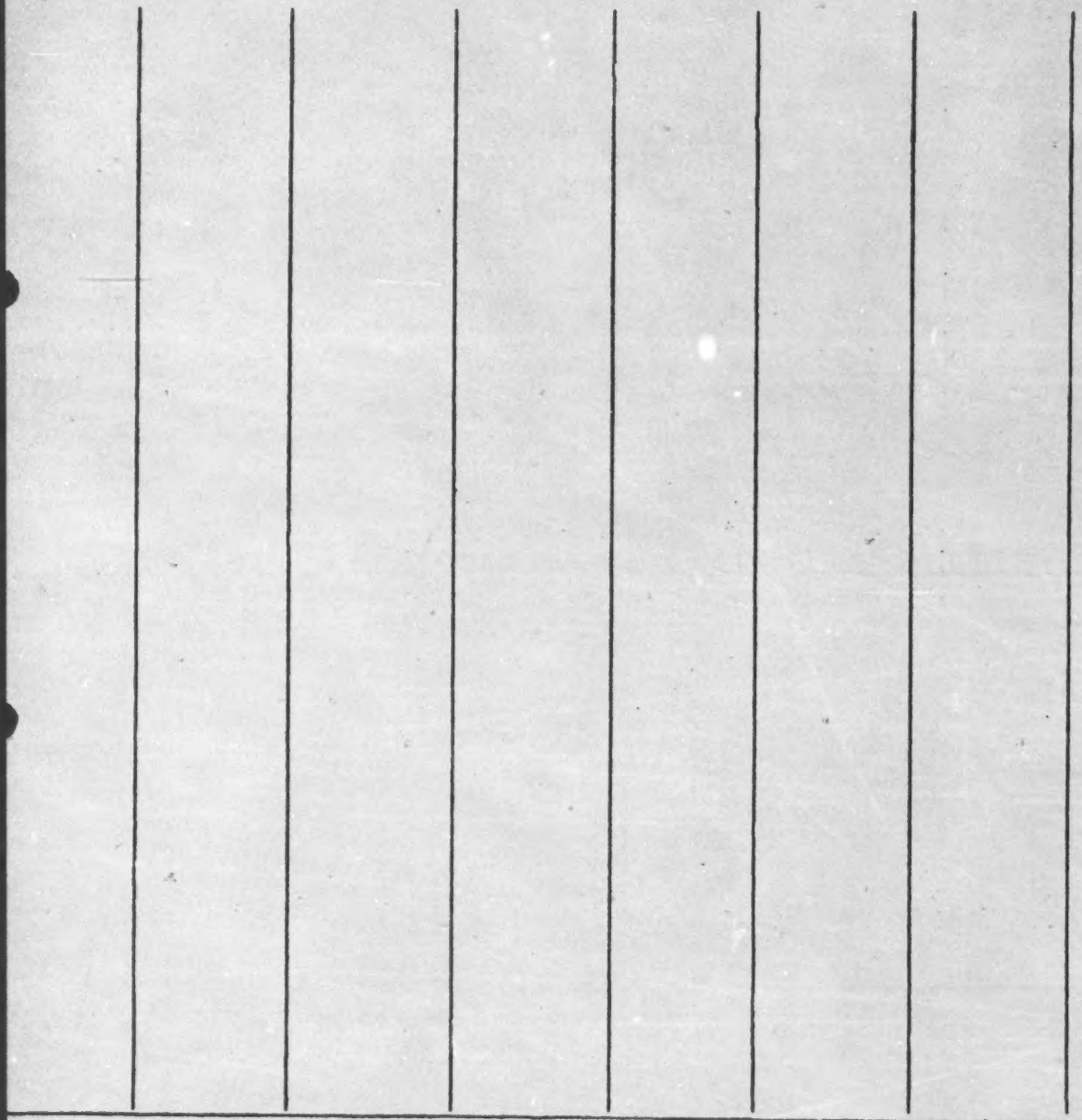
descriptive or true

works well with other children on tasks or classroom activities involving two or more children

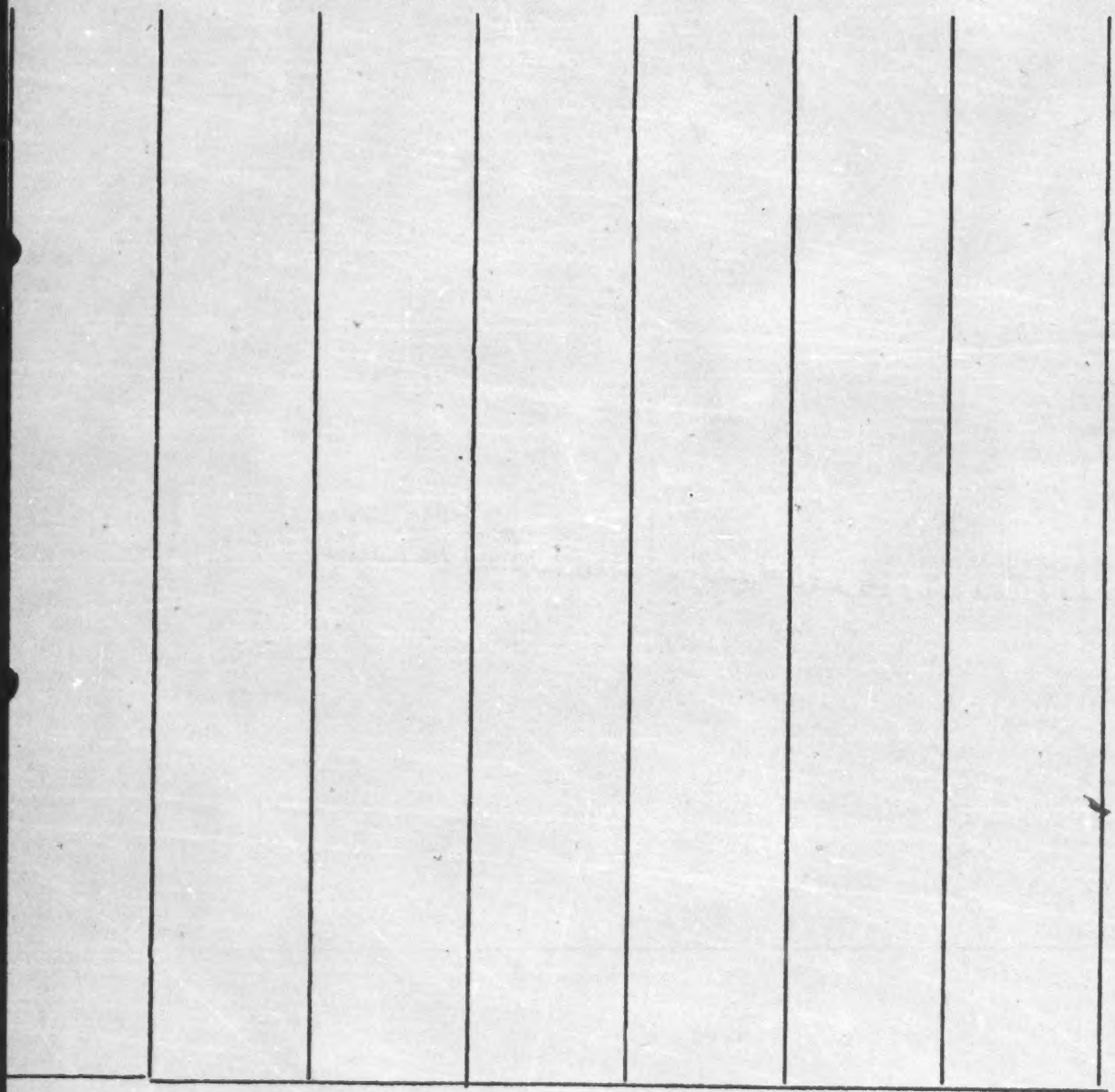


descriptive or true

Competes with and tries to beat other children in classroom activities.

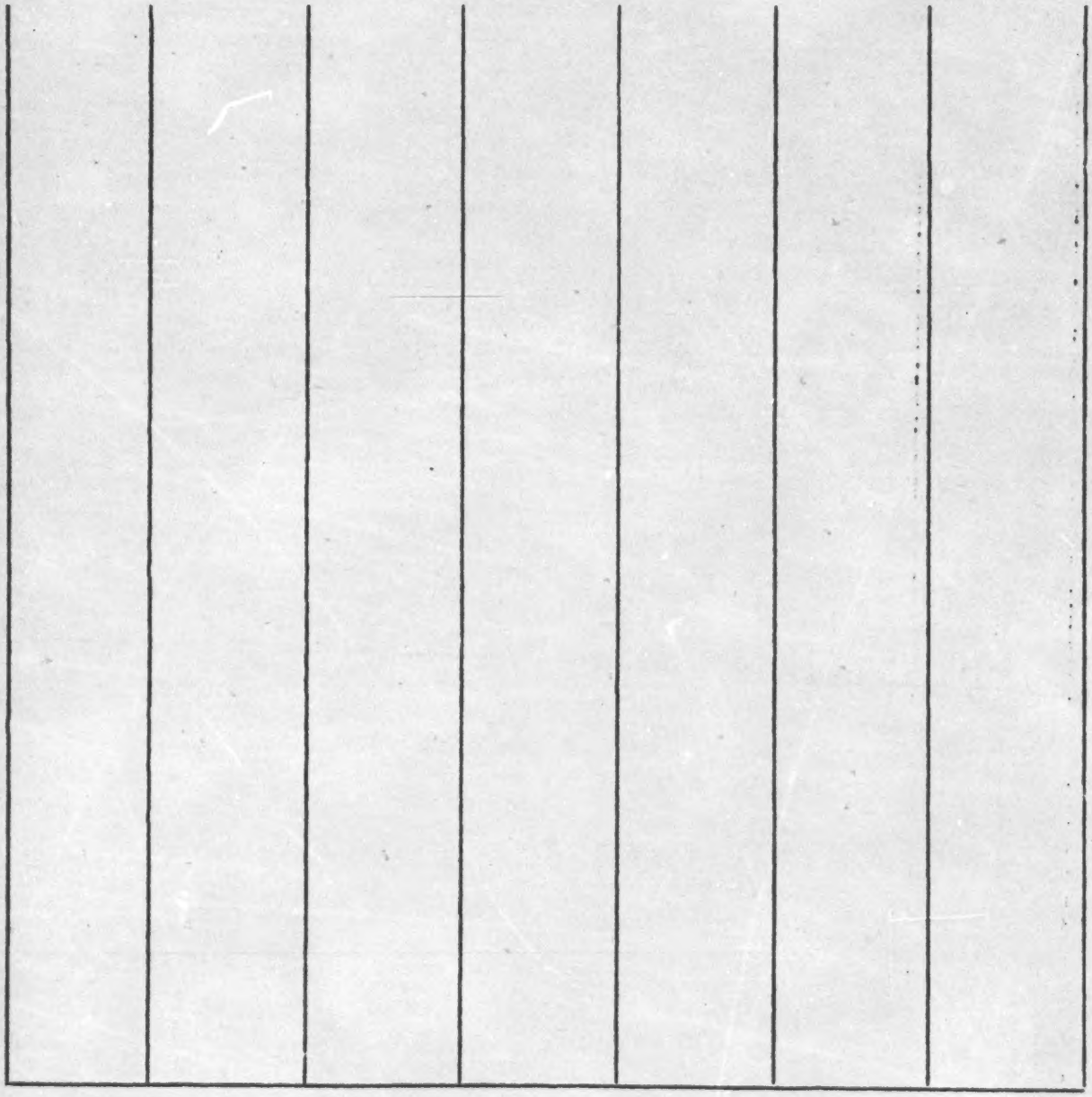


comforts, reassures, and expresses sympathy for other children who are having trouble or who are in pain



descriptive or true

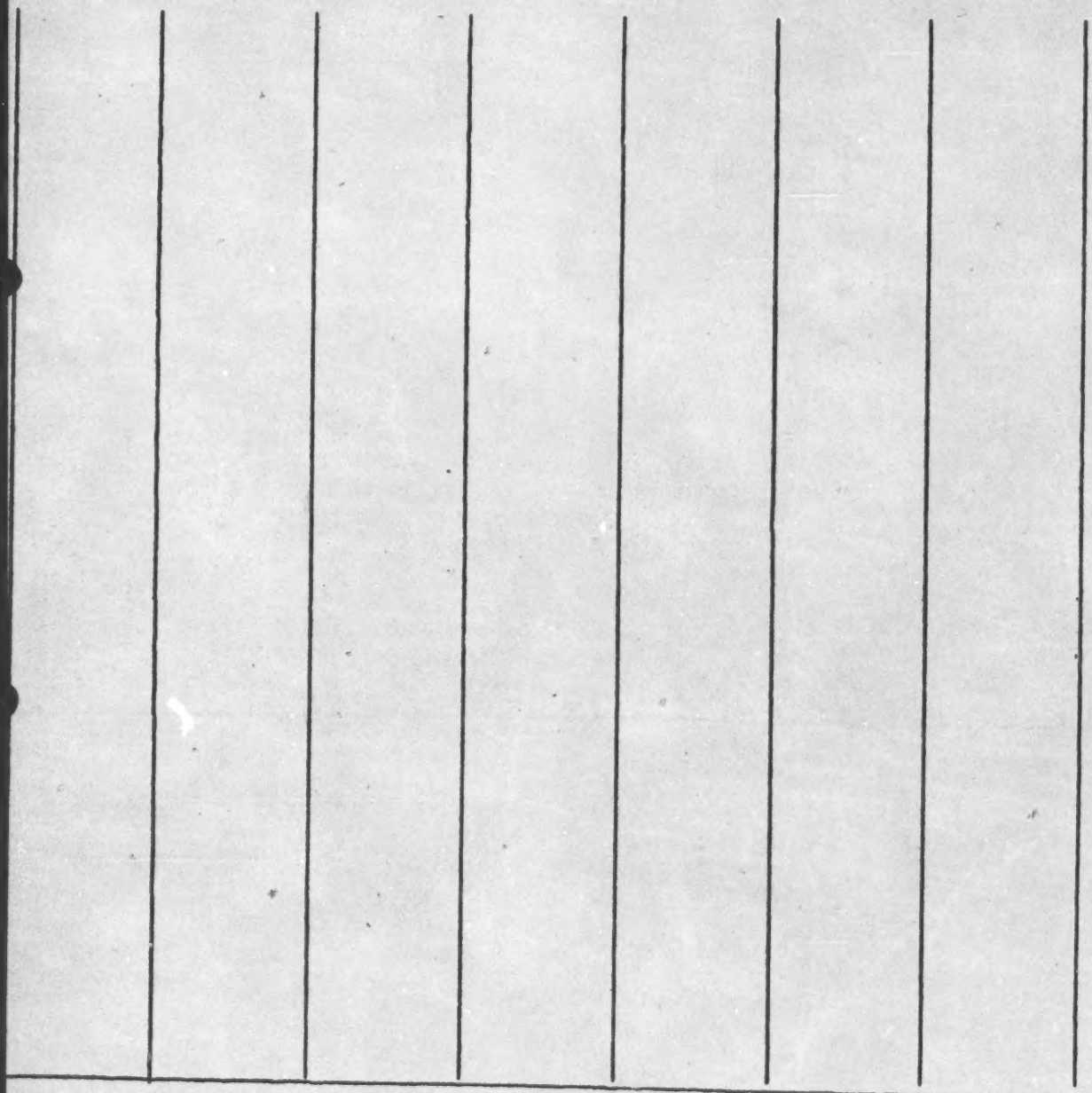
when another child is having difficulty doing something (such as using equipment or materials), the student helps the child



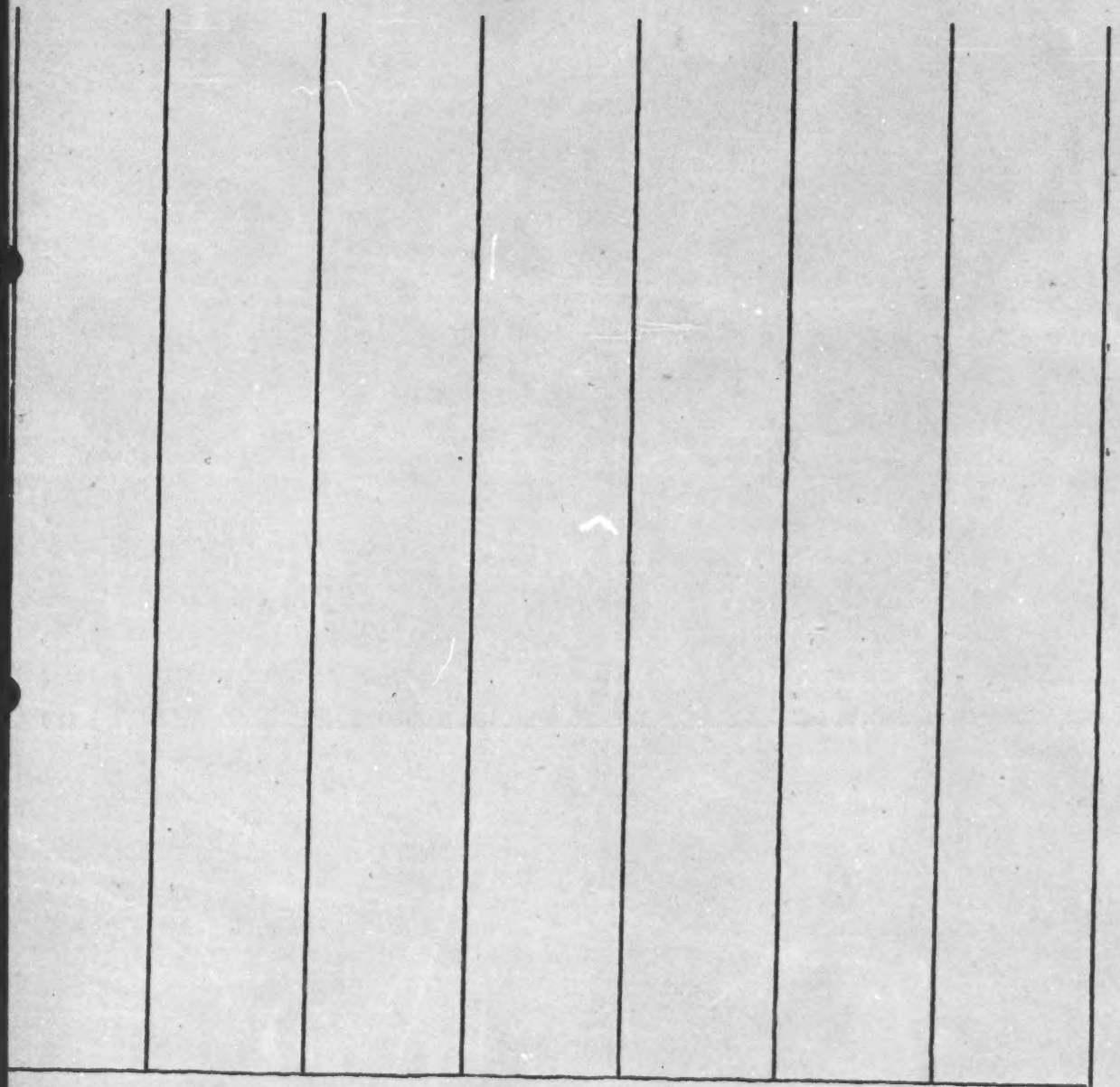
1	2	3	4	5	6	7
Not	Slightly	Somewhat	Fairly	Quite	Very	Definitely

descriptive or true

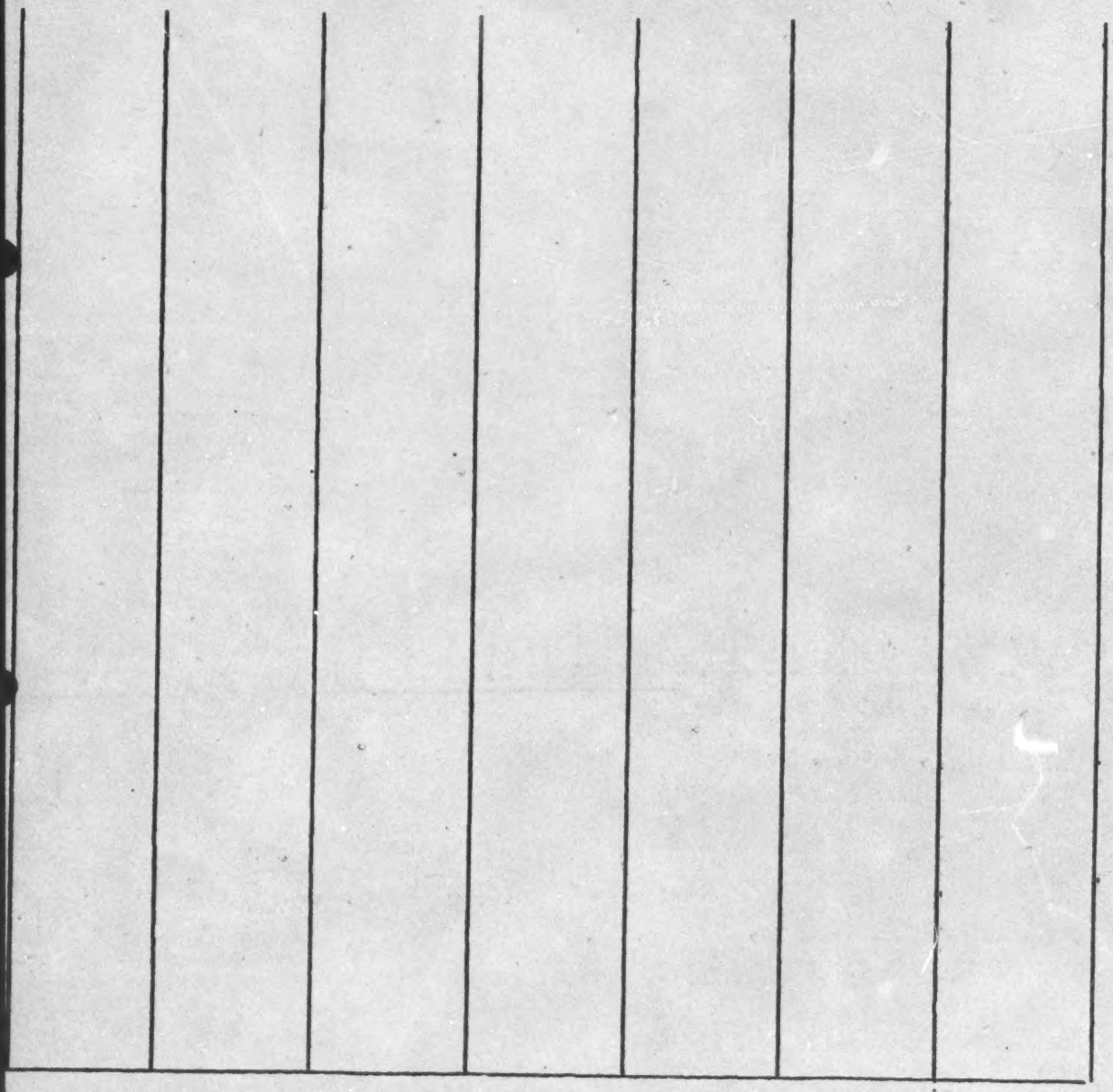
will NOT put down what he (she) is doing in order to help another child who is having trouble with a task



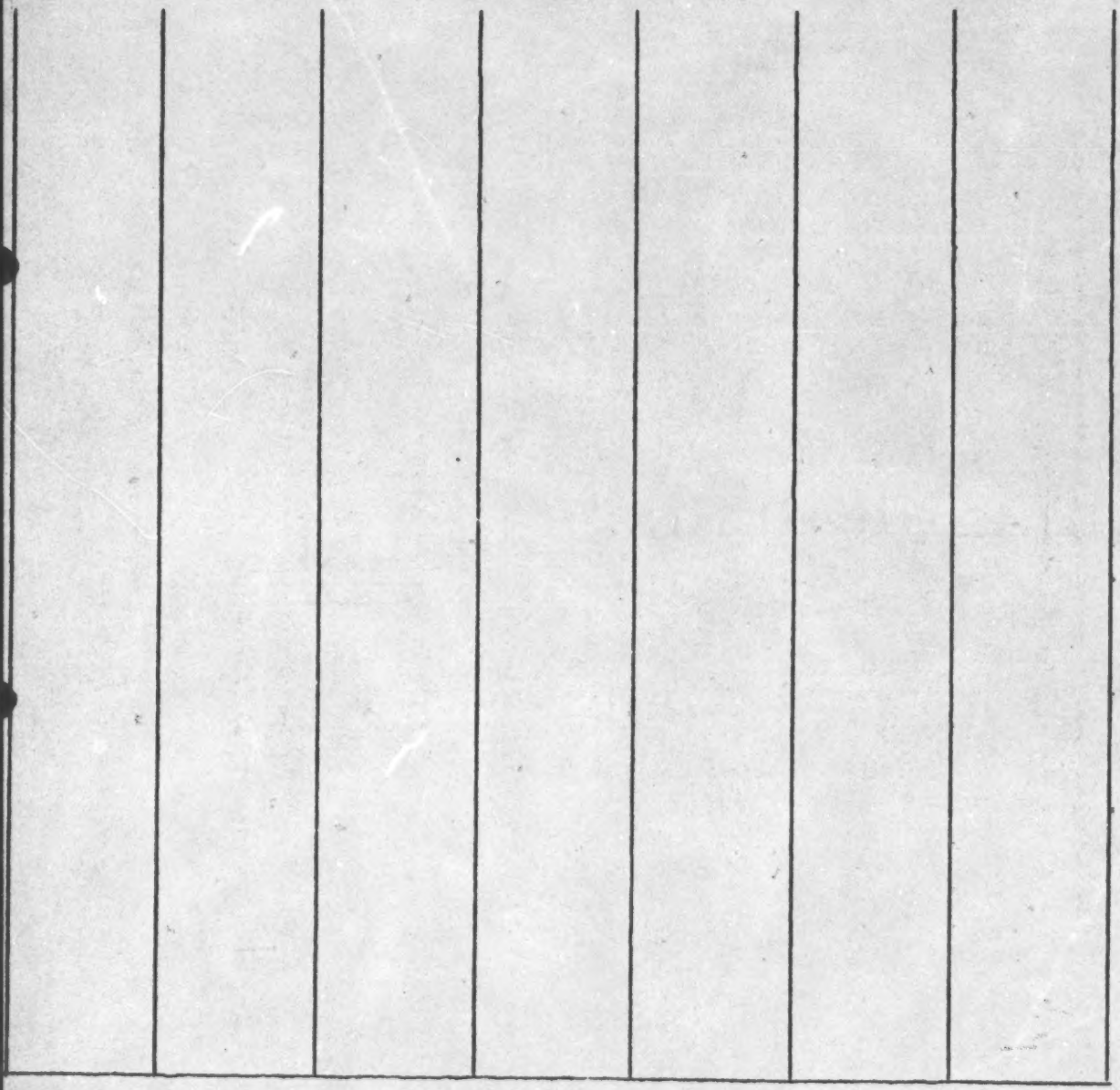
advises, suggests, and interprets things for other children who need that kind of help



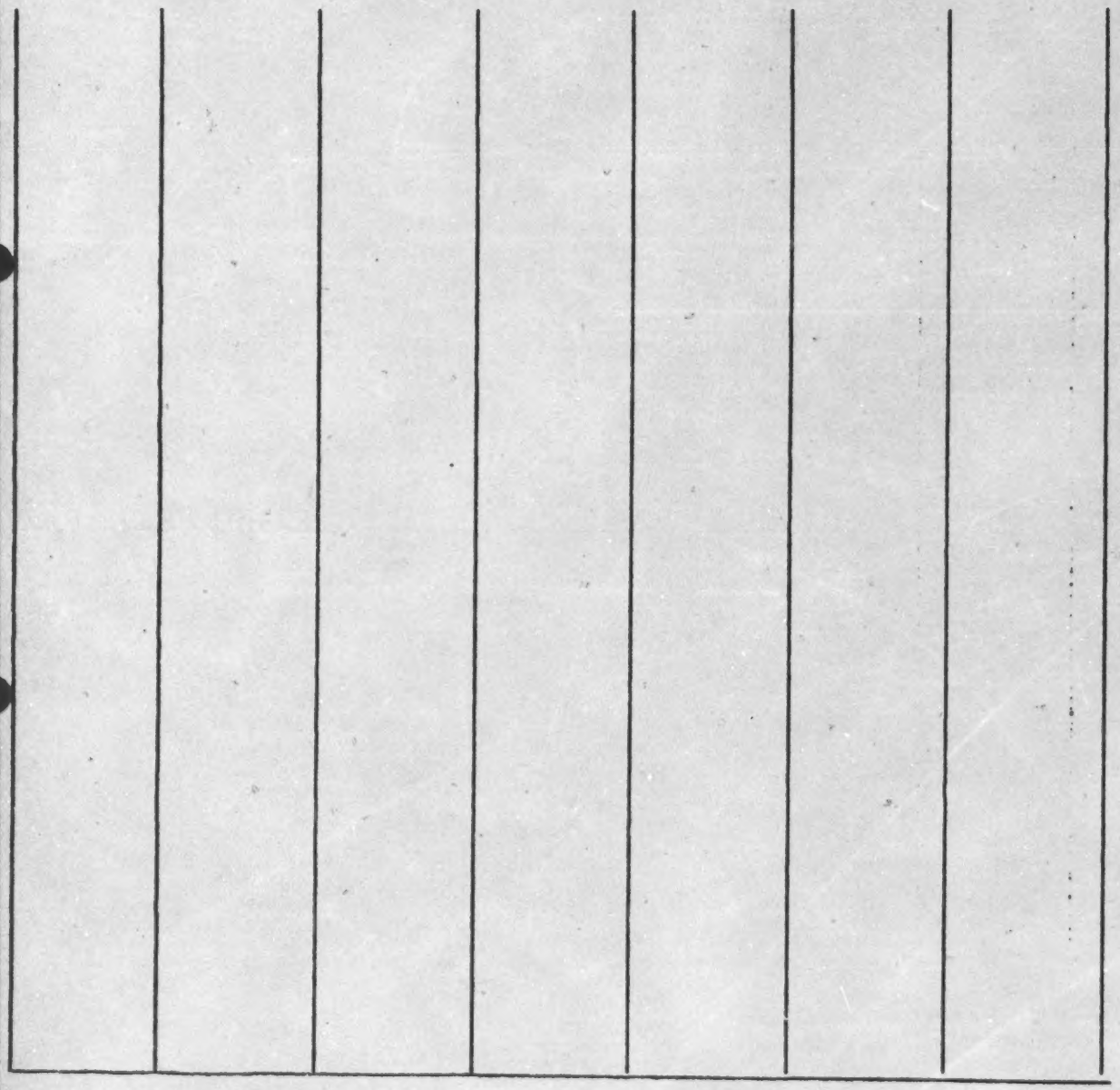
protects and defends a child who is in danger of being harmed by another child or other children (For example, trying to stop another child from taking things away from a weaker child; sticking up for a kid who others are teasing or talking about; trying to break up an unfair fight.)



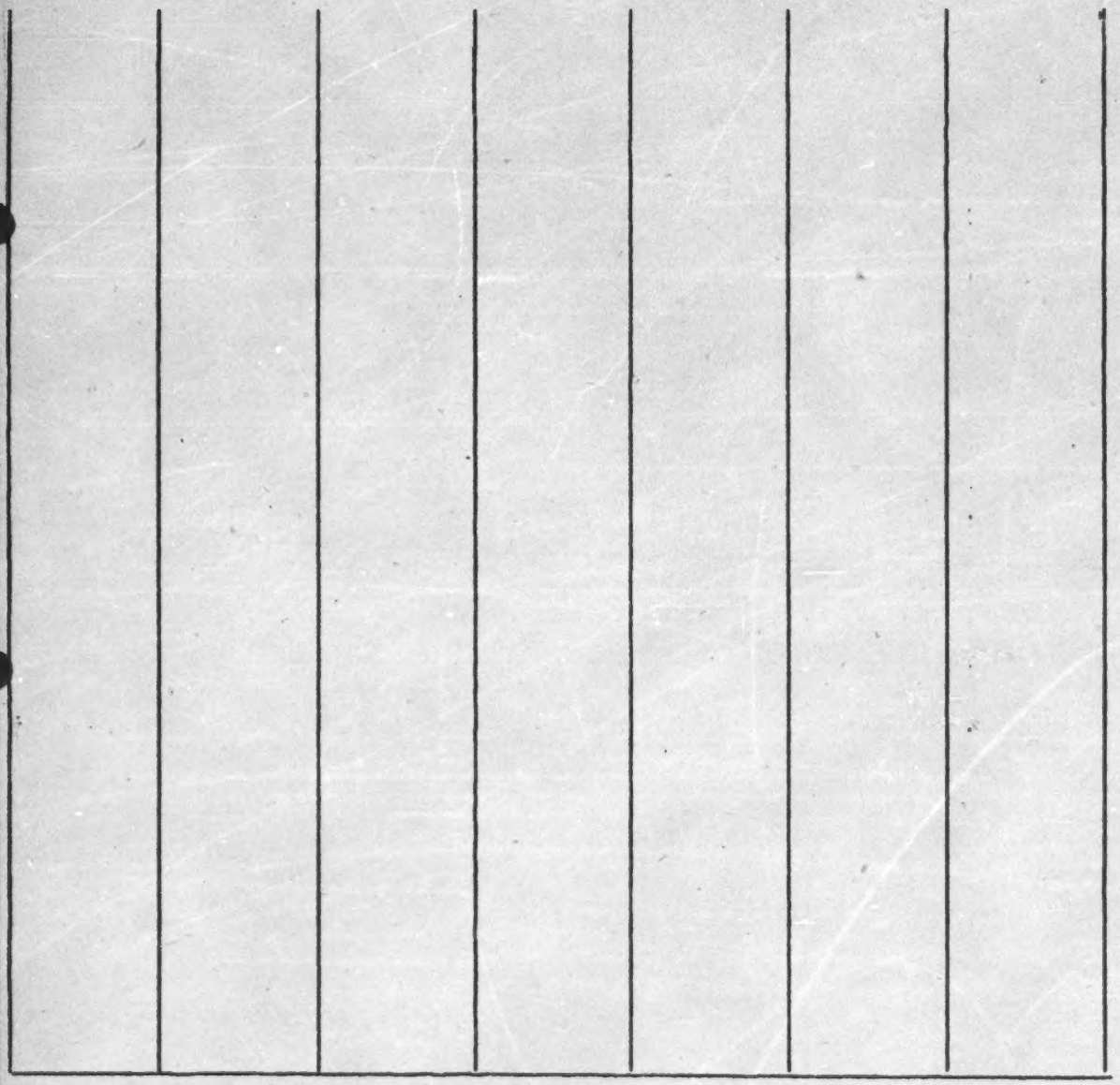
gives direct help to another child in distress (For example, helping a child who has fallen down and then picking up the child's things.)



gives gifts or small presents to other children just because he (she) seems to enjoy it (For example, giving toys, or flowers, or games.)



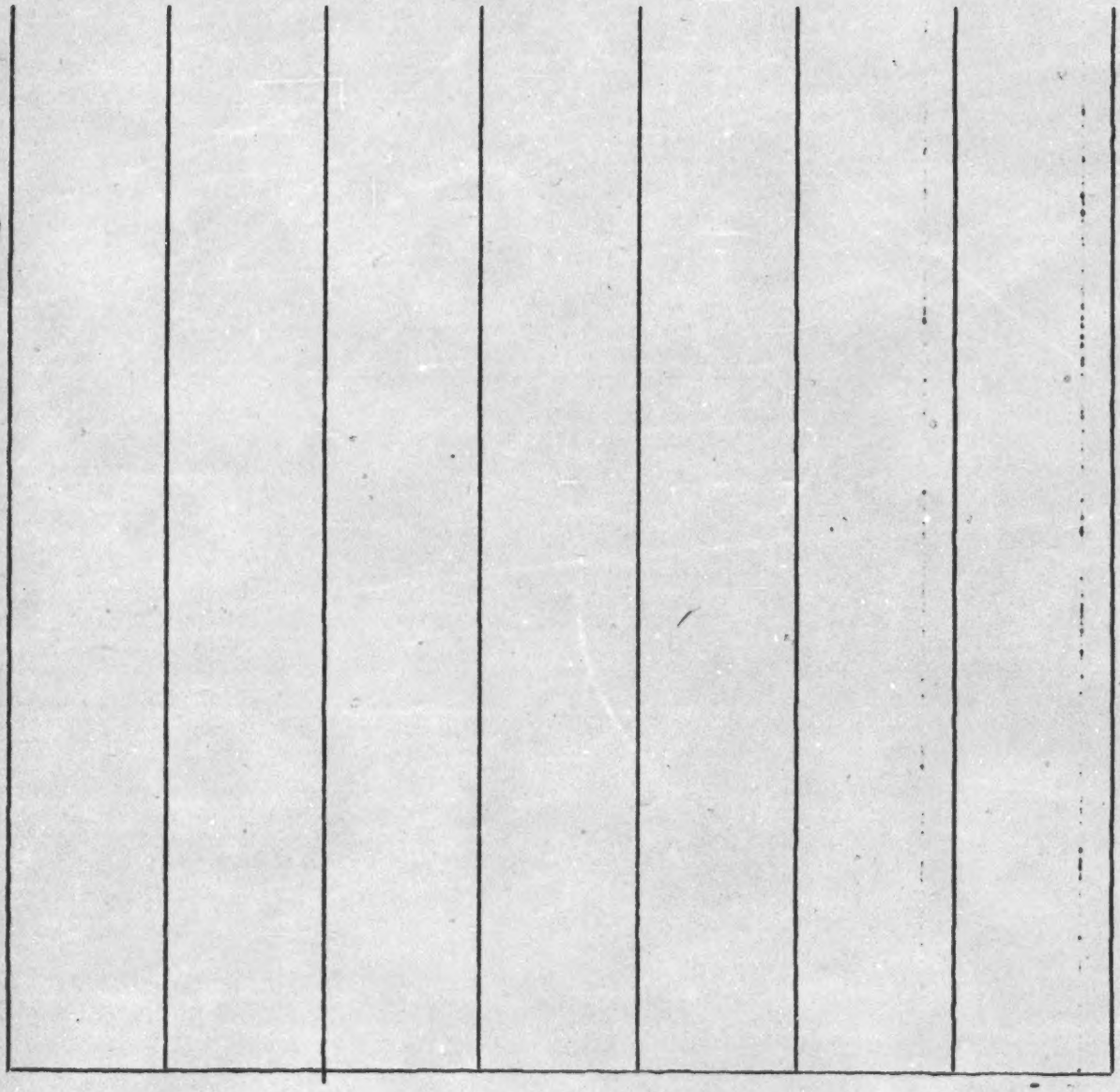
shares his (her) things with another child or other children (For example, allowing others to use his (her) games or school materials; giving others part of his (her) candy or cookies



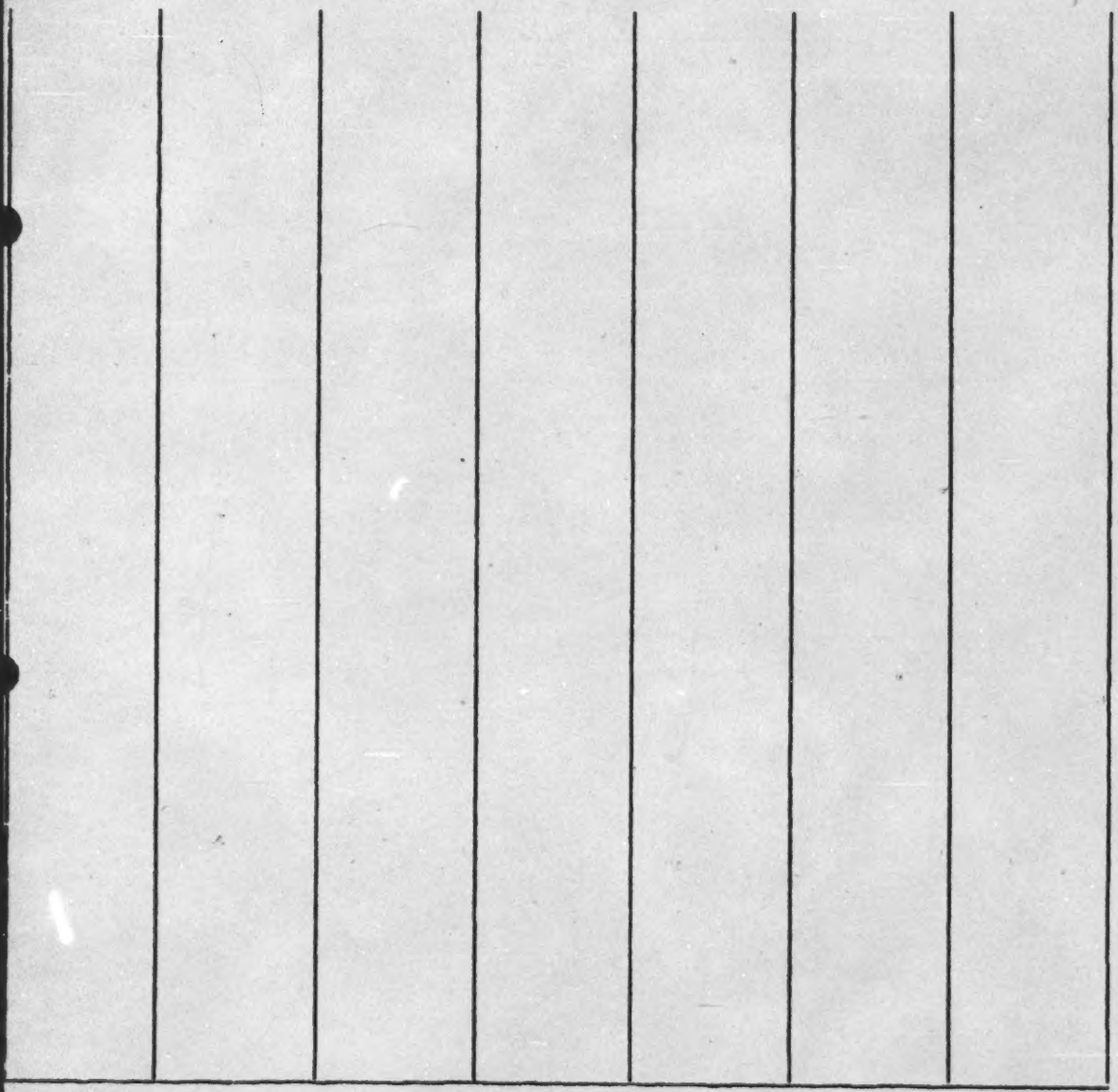
1	2	3	4	5	6	7
Not	Slightly	Somewhat	Fairly	Quite	Very	Definitely

descriptive or true

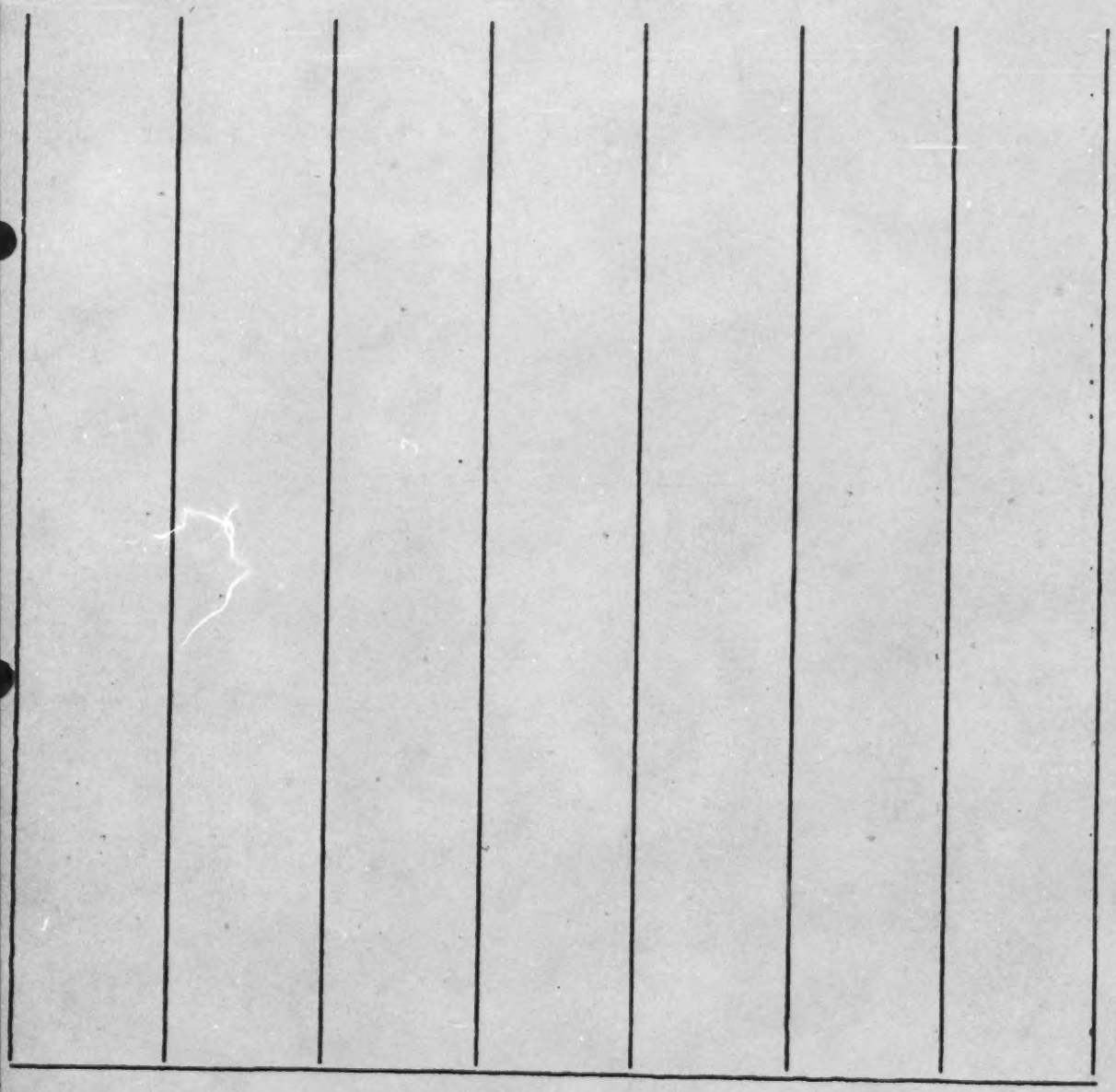
is very popular with his (her) classmates



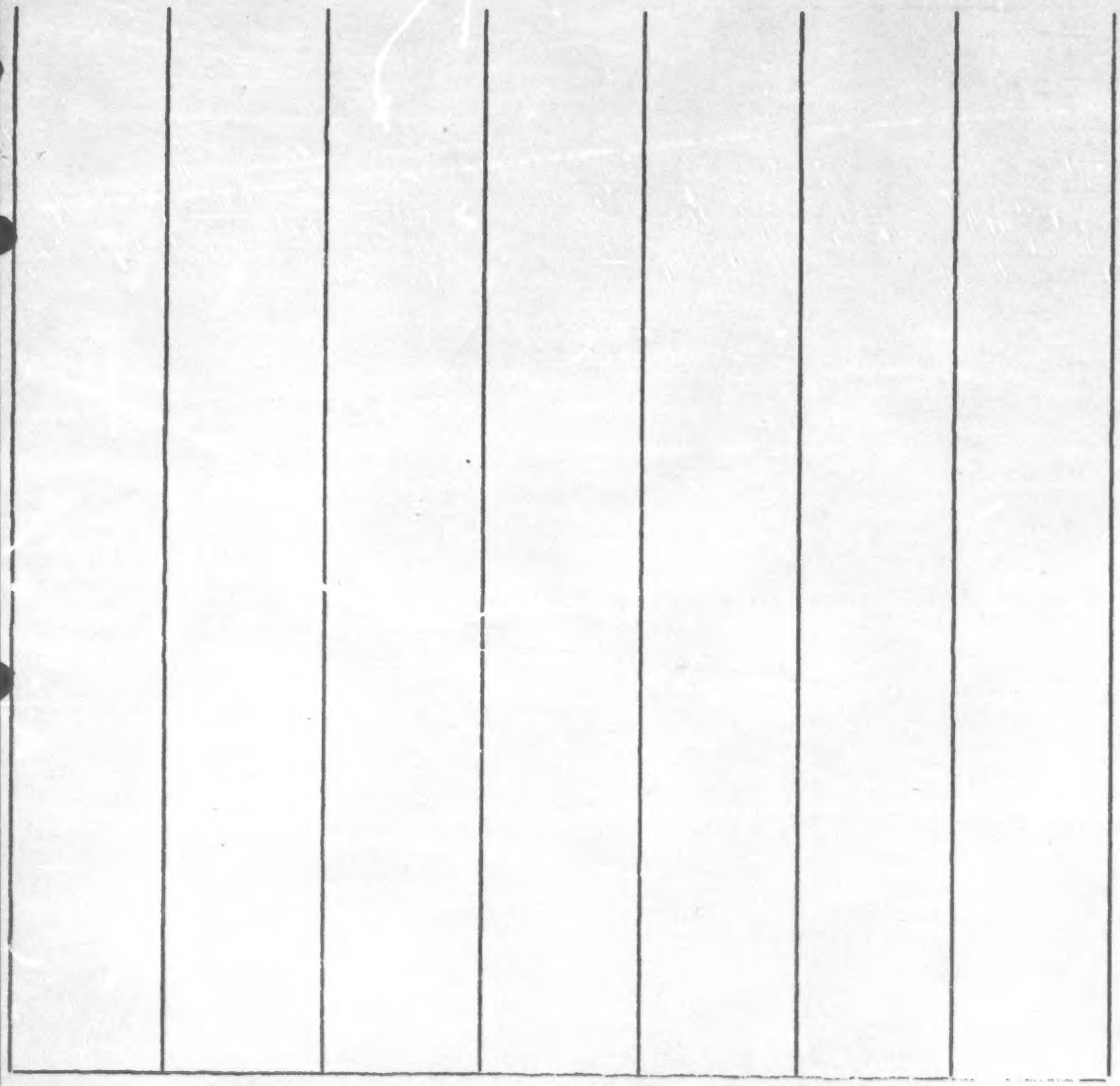
gets very good overall grades and does very well in his (her) school work



is a leader and takes on leadership responsibilities frequently



is very friendly and pleasant toward other children (For example, greeting other classmates in a friendly way; giving verbal or physical signs of affection and friendship; not fighting with others.)



1	2	3	4	5	6	7
Not	Slightly	Somewhat	Fairly	Quite	Very	Definitely

descriptive or true

APPENDIX J

PARENTAL CONSENT FORM

UNIVERSITY OF HAWAII

Education Research and Development Center

December 11, 1973

Dear Parent:

I am presently conducting a research project at the University of Hawaii Laboratory School involving a class in which your child is a student. The project is under the direction of the Education Research and Development Center at the University of Hawaii and is funded by the National Institute of Education. I have discussed the project with administrative personnel and teachers at the Laboratory School, and I have received their full approval of the research program. Before I include your child in the project, however, I would like to tell you briefly about the nature of the project and, in accordance with National Institute of Education guidelines, ask your consent for your child's participation.

The purpose of my project is to obtain information on the typical social behavior of children in situations involving other children. In addition, I want to develop better ways of measuring that behavior. In order to accomplish that objective, children participating in the project will be asked to take part in a number of simple games or tasks either by themselves or with another child. The tasks will be representative of activities that occur normally in school, and the children will not be expected to do anything other than behave as they ordinarily would in similar everyday situations. At no time will there be any physical risk or danger. In fact, because the tasks involve games or other interesting activities, they should be enjoyable.

Inasmuch as the project is entirely for research purposes, the data provided by each child will not become part of the child's school record, nor will it be used in any way by teachers or school officials in connection with individual children. It is simply my hope that the present research project will ultimately aid us--parents as well as educators--in better understanding the social behavior of children. Research such as this is essential, I think, if we are to arrive at more meaningful ways of looking at this important aspect of children's behavior.

If you have any questions about the project, please feel free to call me (948-7904) or drop by to see me (University of Hawaii, Wist Hall Annex-2, 1776 University Avenue, Room 125-B).

Wist Hall Annex 2 · Room 124 · 1776 University Avenue · Honolulu, Hawaii 96822 Cable Address: UNIHAW

If you have no objections to your child's participation in the study, please read the following rather formal statement suggested by the National Institute of Education, and indicate your approval by signing below. Please note that you may discontinue your child's participation at any time. Thank you.

I certify that I have read and understand the foregoing, that I have been given satisfactory answers to any questions that I might have had concerning the procedures and other matters, and that I have been advised that I am free to withdraw my consent and to discontinue my child's participation in the project or activity at any time.

I herewith consent to the participation of my minor child (I consent to the participation of my minor ward) in the project with the understanding that such consent does not waive any legal right, nor does it release the Principal Investigator or the institution or any employee or agent thereof from liability for negligence or for any wrongful act or conduct.

Frank Payne

Dr. Frank D. Payne, Principal Investigator

December 12, 1973
Date

Signature of authorized representative

Date